O-1

Anti-tumour Activity and Updated Safety of the Poly (ADP-Ribose) Polymerase (PARP) Inhibitor Rucaparib as Monotherapy in Patients with Platinum-Sensitive, Relapsed, BRCA-Mutated, High-Grade Ovarian Cancer

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Aims

To report an integrated efficacy analysis of rucaparib based on 2 studies supporting its approval by the European Comission as monotherapy treatment for patients with relapsed, platinum-sensitive, *BRCA*-mutated ovarian cancer who have recieived ≥2 prior lines of platinum-based chemotherapy and are unable to tolerate further platinum-based chemotherapy. To report an updated safety analysis, which used a more recent data cut-off date and larger population than previously published and served as the basis for rucaparib's updated European Union label.

Background

Treatment with multiple chemotherapy regimens may be limited by cumulative toxicities, including platinum hypersensitivity; therefore, additional therapies are needed for recurrent ovarian cancer.

Methods

Efficacy was analysed in platinum-sensitive patients from Study 10 (NCT01482715) and ARIEL2 (NCT01891344) who had high-grade serous or endometrioid epithelial ovarian, fallopian tube, or primary peritoneal cancer, had a deleterious *BRCA* mutation, and received ≥2 prior chemotherapies (including ≥2 platinum-based therapies). The primary endpoint was investigator-assessed, confirmed objective response rate (ORR; cut-off date, 10 April 2017). Safety was analysed in all patients with ovarian cancer who received ≥1 dose of rucaparib 600 mg (cut-off date, 31 December 2017).

Results

In the integrated platinum-sensitive efficacy population (n=79), ORR was 64.6% (95% CI, 53.0–75.0); 10.1% of patients had a complete response and 54.4% had a partial response. Median duration of response was 9.7 (95% CI, 7.4–12.9) months. Median investigator-assessed progression-free survival was 10.9 (95% CI, 8.4–12.8) months. In the integrated safety population (n=565), the most common any grade treatment-emergent adverse events (TEAEs) were nausea (77.7%), asthenia/fatigue (74.7%), vomiting (45.8%), and haemoglobin decreased (44.2%); TEAEs (any grade) led to treatment interruption, dose reduction, or discontinuation in 60.2%, 46.0%, and 16.8% of patients.

Conclusions

Rucaparib demonstrated anti-tumour activity as treatment for patients with platinum-sensitive, *BRCA*-mutated ovarian cancer. The updated safety analysis was consistent with prior reports.

O-2

Effect of Maintenance Rucaparib on Post-progression Outcomes in Patients with Platinum-Sensitive, Recurrent Ovarian Carcinoma (OC) and Updated Safety Data from the Phase 3 Study ARIEL3

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Aims

To report prespecified exploratory, post-progression endpoints, including time to start of first subsequent therapy (TFST), time to second investigator-assessed PFS or death (PFS2), and time to start of second subsequent therapy (TSST), and updated safety data from ARIEL3 (CO-338-014; NCT01968213).

Background

In ARIEL3, rucaparib maintenance treatment significantly improved progression-free survival (PFS) vs placebo in all predefined cohorts: *BRCA* mutation; *BRCA* mutation + wild-type *BRCA*/high loss of heterozygosity (LOH); and intent-to-treat (ITT) population.

Methods

Patients were randomised 2:1 to receive oral rucaparib 600 mg BID or placebo. Exploratory endpoints were analysed in all cohorts.

Results

The visit cut-off dates for efficacy and safety were 15 April 2017 and 31 December 2017, respectively. Median TFST for the *BRCA* mutation cohort (rucaparib [n=130] vs placebo [n=66]), *BRCA* mutation + wild-type *BRCA*/high LOH cohort (rucaparib [n=236] vs placebo [n=118]), and the ITT population (rucaparib [n=375] vs placebo [n=189]) was 19.0 vs 7.2 months (HR=0.29; 95% CI, 0.20–0.42; *P*<0.0001), 16.4 vs 7.6 months (HR=0.40; 95% CI, 0.30–0.52; *P*<0.0001), and 12.5 vs 7.4 months (HR=0.43; 95% CI, 0.35–0.53; *P*<0.0001), respectively. Median PFS2 for each of the 3 cohorts was 26.1 vs 17.9 months (HR=0.44; 95% CI, 0.29–0.69; *P*=0.0003), 24.7 vs 17.9 months (HR=0.57; 95% CI, 0.41–0.79; *P*=0.0006), and 21.1 vs 16.5 months (HR=0.62; 95% CI, 0.48–0.79; *P*=0.0001), respectively. Median TSST for each of the 3 cohorts was not reached vs 19.4 months (HR=0.49; 95% CI, 0.31–0.78; *P*=0.0024), 26.5 vs 19.4 months (HR=0.58; 95% CI, 0.41–0.82; *P*=0.0018), and 22.2 vs 18.6 months (HR=0.70; 95% CI, 0.54–0.91; *P*=0.0064), respectively. The updated safety profile was consistent with prior reports.

Conclusions

Rucaparib significantly improved the clinically meaningful post-progression endpoints TFST, PFS2, and TSST vs placebo in all predefined cohorts of patients with platinum-sensitive, recurrent OC.

O-3

Randomised trial of unselected population based BRCA testing in Ashkenazi Jews: Long-term outcomes

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Aims

To compare long-term outcomes of population based and family history (FH)/clinical criteria based *BRCA*-testing on psychological-health and quality-of-life.

Background

Unselected population based *BRCA* testing provides an opportunity to apply genomics on a population scale to maximise primary prevention for breast and ovarian cancer. We present the long-term outcomes of unselected population based BRCA testing in Ashkenazi Jews (AJ) recruited to the GCaPPS trial (ISRCTN73338115).

Methods

Design: Randomised Controlled Trial (RCT) (ISRCTN73338115) GCaPPS, with two-arms: (a)Population Screening (PS); (b)FH/Clinical-criteria based testing.
Setting: North London Ashkenazi-Jewish (AJ) population
Population-based RCT (1:1). Participants were recruited through self-referral, following pre-test genetic-counselling from North-London AJ population.
Inclusion criteria: AJ women and men >18 years. Exclusion-criteria: prior *BRCA* testing or first-degree-relatives of *BRCA* carriers.
Interventions: Genetic testing for three Jewish *BRCA*-founder-mutations: 185delAG(c.68_69delAG), 5382insC(c.5266dupC) and 6174delT(c.5946delT), for (a) all participants in PS-arm; (b) those fulfilling FH/clinical criteria in FH arm. Validated questionnaires (HADS/MICRA/HAI/SF12) analysed psychological well-being/quality-of-life outcomes at baseline, 1 year, 2 years and 3 years follow-up. Linear-mixed models and appropriate contrast-tests were used to analyse impact of *BRCA* testing on psychological and quality-of-life outcomes over 3 years.

Results

1034 (women=691/men=343) participants randomized to PS (n=530) or FH (n=504) arms. There was a statistically significant decrease in anxiety(p=0.046) and total anxiety-&-depression scores(p=0.0.012) in the PS arm compared to FH arm over 3 years. No significant difference was observed between FH/PS arms for depression, health-anxiety, distress, uncertainty, quality-of-life or experience-scores associated with *BRCA*-testing. Contrast-tests showed a decrease in anxiety (p=0.018), health-anxiety (p<0.0005), and quality-of-life (p=0.004) scores in both PS and FH groups over time. 18/30(60%) *BRCA*-carriers identified did not fulfil clinical-criteria for *BRCA* testing. The total *BRCA* prevalence= 2.9%(CI:1.97%,4.12%). *BRCA1*-prevalence= 1.55%(CI:0.89%,2.5%); *BRCA2*-prevalence= 1.35%(CI:0.74%,2.26%).

Conclusions

Population-based AJ *BRCA*-testing does not adversely affect long-term psychological well-being or quality-of-life, decreases anxiety and could identify up to 150% additional *BRCA*-carriers.

O-4

Determining the Molecular Profile of Low Grade Serous Ovarian Carcinoma and its Association with Clinical Outcomes

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Aims

To further investigate the mutational landscape of LGSOC with exome sequencing and examine these for any impact on survival and other clinical associations.

Background

LGSOC is a rare subtype that accounts for <10% of epithelial ovarian cancer. It affects younger women and is resistant to platinum, making it difficult to manage clinically. It is well established that 2/3 of cases are secondary to mutations of the MAPK pathway (in particular BRAF and KRAS) but there is little consensus on the root of oncogenesis in the remaining third.

Methods

A sample set of definitive 24 LGSOC cases was derived using pathology review and immunohistochemistry. Following macrodissection and DNA extraction, these cases underwent whole exome sequencing on the Illumina® NextSeq at 50x; after bioinformatic analysis, the results were statistically evaluated alongside the corresponding clinical data.

Results

KRAS mutations were present in 46% and BRAF in 4%. A further 8% showed mutations associated with the MAPK pathway and 25% were found to contain novel mutations including MTOR. A number of co-occurring mutations were also identified (including two PIK3CA). KRAS mutant tumours were associated with a significantly improved progression free survival ($p < 0.05$) compared to wild-type, and there was also a very strong association between KRAS mutation and a macro papillary pattern ($p < 0.001$).

Conclusions

The presence of a KRAS mutation can be detected by the presence of a macro papillary histopathological pattern and is associated with a significantly with improved survival. The PI3K/AKT/mTOR pathway was identified as a potential site of drivers and may prove to be a key target for therapeutics in the future.

O-5

Development of Peritoneal Carcinoma in women diagnosed with Serous Tubal Intraepithelial Carcinoma (STIC) following Risk-Reducing Salpingo-Oophorectomy (RRSO)

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Introduction

The management of Serous Tubal Intraepithelial Carcinoma (STIC) found at the time of Risk-Reducing Salpingo-Oophorectomy (RRSO) remains unclear. We set out to analyse the incidence of peritoneal carcinomas developed after prophylactic surgery and to formulate further guidance for these patients.

Methods

This is a retrospective study of 300 consecutive RRSO performed at the Royal Marsden Hospital between January 2008 and January 2017.

Results

The median age at RRSO was 47.8 years (range 34 to 60 years) and median BMI was 26.2 kg/m^2 (range 16 to 51 kg/m^2). A total of 273 patients (91%) were tested for BRCA mutations. Of these, 124 (45.4%) had a BRCA 1 mutation, 118 (43.2%) had a BRCA 2 mutation, 2 (0.7%) had both a BRCA 1 and a BRCA 2 mutation and 29 (10.6%) had no BRCA mutation detected. Isolated STIC lesions were identified in 7 cases (2.3%) and p53 signatures in 75 cases (25%). There were five (1.6%) incidental tubal carcinomas and one (0.3%) ovarian carcinoma at the time of surgery. Two of the 7 patients (28.6%) with STIC identified following RRSO had high grade serous peritoneal carcinoma diagnosed at 53 and 75 months. One (0.3%) patient from the other 287 patients from our series with no STIC diagnosis or incidental carcinomas at RRSO developed high grade serous carcinomas of peritoneal origin after 92 months.

Conclusion

This study demonstrates that when a STIC lesion is identified following RRSO there is a significantly higher risk of a subsequent peritoneal cancer. Although there is no published consensus in literature, we recommend that consideration should be given for long term follow-up if a STIC lesion is identified at RRSO.

Keywords: BRCA, Serous Tubal Intraepithelial Carcinoma, Risk-Reducing Salpingo-Oophorectomy, Peritoneal Carcinoma

O-6

Machine learning & a novel patch sampling approach to generate biomarker cervicograms

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Aims

Demonstrate the utility of molecular lesion stratification using a non-invasive approach that preserves spatial architecture together with machine learning to identify clinically-relevant lesions

Background

Screening for cervical cancer precursors is by the detection of HPV DNA, due to its high sensitivity. However, mere presence of DNA doesn't correlate to HSIL and DNA screening has low specificity on its own, leading to a near tripling in colposcopy referrals. Thus, there is a clear requirement for a sensitive and specific HPV triage test.

Methods

We utilise a novel patch sampling approach to obtain the cervical surface cells together with spatial preservation. Patients attending colposcopy had a pre & post-acetic acid photo, interspersed by patch sampling. 17 patients with a high-grade smear and subsequent histology proven HSIL were recruited in one arm vs. 24 patients with LSIL. This patch was then probed with antibodies to MCM (HSIL) and E4 (LSIL). The signal for each antibody was analysed by a machine learning algorithm enabling the generation of a molecular heat-map of the cervical surface.

Results

Our approach safely samples the cells at the cervical surface. This in-situ approach facilitated the identification of entire MCM positive (HSIL) / E4 positive (LSIL) lesions. These patterns were correlated to the underlying histology with a HSIL sensitivity of 88%, PPV of 79% and an AUC of 84% ($p < 0.01$).

Next, we successfully trained a machine learning algorithm to identify entire lesions which improved diagnostic objectiveness vs. cytology triage.

Conclusions

Our novel approach of in-situ cervical biomarkers is effective in identifying HSIL. Moreover, combining MCM with E4 enables objective discrimination of HSIL vs. LSIL. This coupled with machine learning provides a personalised molecular cervical surface map for HPV triage, reducing unnecessary referrals and over-treatment.

O-7

UK perspectives from the Every Woman Study: comparing experiences of women being diagnosed and treated for ovarian cancer from around the world

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Aims

The aim of the World Ovarian Cancer Coalition Every Woman Study was to address the evidence gap relating to the experiences of women with ovarian cancer globally, with a view to improving survival and quality of life.

Background

With global incidence set to rise by 55% to 371,000 a year by 2035, 5-year survival rates of less than 50%, and with 15% of UK women dying within two months of their diagnosis, urgent action is required.

Methods

1531 women diagnosed since 2013 from 44 countries took part. Given global 5-year prevalence, results achieve a confidence level of 95% with a confidence interval of +/- 2.5%. There were sufficient responses to identify some statistically significant differences by country, when compared to the average for all ($p<.01$ and $*p<.05$). Subjects included knowledge, symptoms, diagnosis, tests, treatments, genetic testing, information and care.

Results

Women in the UK are most likely to visit a doctor about symptoms (87.7% vs 78.3%), least likely to be diagnosed within one month (30% vs 43.2%), and least likely to be diagnosed with stage 1 serous ovarian cancer (3.1%* vs 9.4%). They are most likely to report having had a CA125 test as one of the first two diagnostic tests (39.9% vs 25.4%), but less likely to report a transvaginal ultrasound (15.5%* vs 21.2%). Women in the UK were most likely to undergo chemotherapy prior to surgery (29.8% vs 20.7%), and least likely to receive surgery for recurrent ovarian cancer (4.3% vs 9.6%). They are very positive about the care they receive and have amongst the best access to gynaecological oncologists in the world.

Conclusions

Understanding the drivers for each negative or positive aspect in the UK may help reduce delays in diagnosis allowing more women to start and tolerate treatment and inform progress in other countries.

O-8

Preliminary Safety, Efficacy, and Pharmacokinetic/Pharmacodynamic Characterization From GARNET, a Phase 1/2 Clinical Trial of the Anti–PD-1 Monoclonal Antibody Dostarlimab (TSR-042) in Patients With Recurrent or Advanced MSI-H and MSS Endometrial Cancer (EC)

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Aims

To present safety and efficacy data from previously treated recurrent/advanced EC cohorts of the GARNET trial, along with pharmacokinetics and receptor occupancy (RO) at the recommended phase 2 dose (RP2D).

Background

Dostarlimab (TSR-042) is an investigational humanized anti–programmed death (PD)-1 monoclonal antibody that binds with high affinity to the PD-1 receptor and effectively blocks interactions with PD-L1 and PD-L2. Dostarlimab is being evaluated in patients with advanced solid tumors in the ongoing phase 1/2 GARNET trial (NCT02715284).[1]

Methods

Patients received dostarlimab: 500mg/3 weeks for 4 cycles and 1000mg/6 weeks thereafter. Antitumor activity was assessed by investigators per immune-related RECIST. Serum and peripheral blood mononuclear cells were collected for pharmacokinetic and RO measurements, respectively.[1]

Results

110 patients with EC received ≥1 dose of dostarlimab. Median age was 66.0 years. Patients received a median of 1 (range, 0–3) prior lines of therapy for advanced or metastatic disease. Ninety-four patients had ≥1 tumor assessment (n=79) or discontinued treatment before week 12 (n=15); overall response rate (including confirmed and unconfirmed responses per immune-related RECIST) was 27.7% (50.0% in microsatellite instability-high [MSI-H] patients; 19.1% in microsatellite stable [MSS] patients). Disease control rate was 48.9%. At data cut-off, responses were ongoing in 88.4% of responders. Detailed efficacy results based on microsatellite status will be presented.

Sixty-eight patients (61.8%) had ≥1 treatment-related adverse event (TRAE). Grade ≥3 TRAEs were reported in 13 patients (11.8%); the most common grade ≥3 TRAE was increased aspartate aminotransferase (2.7%).
Dostarlimab pharmacokinetics was linear and dose-proportional. Maximal RO was observed at the RP2D, consistent with previous results, and was maintained throughout treatment.[1]

Conclusions

Dostarlimab demonstrated robust clinical activity in patients with previously treated recurrent/advanced EC in MSI-H and MSS subgroups and a safety profile similar to approved anti–PD-1 therapies.

1. Sachdev JC, et al. *Ann Oncol*. 2017;28(Suppl 5):420;1185P.

P-1

Chronic exposure to the novel PARP inhibitor niraparib (XEJULA), in contrast to olaparib, limits the impact of chemotherapy-induced multidrug resistance in ovarian cancer

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Aims

Increased P-glycoprotein (P-gp)-mediated drug efflux promotes paclitaxel-induced resistance in ovarian cancer. We have previously shown that P-gp additionally promotes olaparib resistance, and now investigate whether this mechanism is common to additional PARP inhibitors including niraparib, recently licensed for maintenance treatment of relapsed platinum-sensitive disease.

Background

Ovarian cancer is routinely treated with combination carboplatin/paclitaxel chemotherapy, but durable response is frequently compromised by chemotherapy-induced resistance. Using novel drug-resistant cell lines to mimic responses in sensitive and resistant patients, we have shown that *ABCB1* (MDR1; P-glycoprotein) induction defines a common resistance mechanism, limiting efficacy of both paclitaxel and olaparib (1).

Methods

A2780 cells were made resistant to paclitaxel (A2780pacR), olaparib (A2780olapR) and niraparib (A2780nirapR), with drug treatments designed to mimic typical clinical steady state peak plasma levels. MTT chemosensitivity and clonogenic assays were used to compare sensitivity of parental and resistant cells to paclitaxel, olaparib, rucaparib and niraparib; qRT-PCR and Western blot analysis to compare *ABCB1* mRNA and P-gp expression, and P-gp ATP-ase assays to assess whether PARP inhibitors were strong or weak P-gp substrates.

Results

Consistent with pre-clinical data (2), niraparib was more potent than either olaparib or rucaparib in both 72-96h MTT and 6-day clonogenic assays, with cross-resistance to paclitaxel significantly reduced in comparison to olaparib or rucaparib. In contrast to olaparib, niraparib did not influence P-glycoprotein ATP-ase activity, and A2780nirapR cells did not express P-glycoprotein.

Conclusions

Our data confirms that niraparib is more potent than olaparib or rucaparib in A2780pacR and A2780olapR cells, in part as efficacy is not limited by P-gp-mediated drug efflux. Routine first-line treatment of ovarian cancer patients with paclitaxel may limit clinical response to PARP inhibitors, although the influence of P-gp-mediated drug efflux may be avoided by prescription of niraparib. Studies to investigate novel P-gp-independent mechanisms of niraparib resistance are underway in our laboratory.

References

1. Vaidyanathan, A., Sawers, L., Gannon, Anne-Louise., Scott, A.L., Bray, S.E., Ferguson, M.J. and Smith, G. *ABCB1* (MDR1) induction defines a common resistance mechanism in paclitaxel and olaparib-resistant ovarian cancer cells. British Journal of Cancer, 115, 431-441 (2016)
2. Sun, K., Mikule, K., Wang, Z., Poon, G., Vaidynathan, A., Smith, G., Zhang, Z.Y., Hanke, J., Ramaswamy, S. and Wang, J. A comparative pharmacokinetic study of PARP inhibitors demonstrates favourable properties for niraparib efficacy in preclinical tumour models. Oncotarget, 9, 37080-37096 (2018)

P-2

Cytoreduction for recurrent gynaecological cancer in Northern Ireland- Patient characteristics and outcomes

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Aims

Study patients undergoing secondary cytoreduction for recurrent gynaecological cancer to provide an insight into patient outcomes and use this information to enhance the counselling of future patients.

Background

Surgery has historically played a lesser role in the management of recurrent disease compared to that in primary ovarian cancers. Recently, there has been an increase in utilisation of secondary cytoreduction.

Methods

Patients were identified from the theatre ledger and included providing they had recurrent gynaecological cancer which was managed surgically within Belfast City Hospital (BCH), 1st January 2014 to 31st December 2018 inclusive. Patient demographics, primary and recurrence disease characteristics (site, histology and post-operative complications), were collected retrospectively by examining patient notes and electronic records. Data inputted into Microsoft Excel for analysis.

Results

Over the 5-year study period, 32 patients (mean age = 61; mean BMI = 30.6) received cytoreductive surgery for recurrent gynaecological cancer. Mean time from initial operation to recurrence of 51.6 months. Number of operations increased throughout this period with 1 surgery in 2014 to 13 in 2018. At initial operation, R0 resection was achieved in 28 patients. The most common initial histopathology being high grade serous (n=10), followed by granulosa cell tumours (n=6). Complete cytoreduction for recurrences was achieved in 29 patients. Histology of the recurrence matched the initial histology in 26 cases and was benign in 6 cases. Histology always matched in granulosa, high grade serous and low grade serous. There was poor concordance with initial histopathology within the subtypes of endometrial, clear-cell and mucinous.

Conclusions

There is an increasing trend for patients undergoing treatment for recurrent gynaecological cancer. The complete cytoreduction rates were high in the primary and recurrent surgeries. The poor concordance with initial histology for endometrial, clear cell and mucinous cancers raise questions about the preoperative consideration for surgery.

P-3

Use of Neutral Argon Plasma (PlasmaJetTM) during debulking surgery for epithelial ovarian cancer confers a survival advantage! Final results from a feasibility study

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Aims

Primary Outcomes:
1. Feasibility of surgical device study within a tertiary referral cancer centre
2. Does use of the PlasmaJet (PJ) device enable an improvement in cytoreduction rates in comparison with standard surgical techniques (SST)?

Secondary Outcomes
1. Morbidity and mortality
2. QOL
3. survival
4. Cost-effectiveness

Background

Epithelial ovarian cancer (EOC) is the 2nd common gynaecological cancer & the commonest cause of death. Standard treatment of EOC is combination of cytoreductive surgery and chemotherapy. Recent studies (EORTC 55971 and CHORUS) suggest that complete cytoreduction should remain the objective irrespective of when surgery is undertaken.

Methods

Following ethics approval, all women with Stage 3&4 EOC approached prior to their debulking surgery and offered recruitment. Once consented, randomisation performed following confirmation of intent to proceed to debulking surgery and randomised to receiving SST or use of PJ during debulking. Both patient and ward nurses blinded. QoL data collected pre-operatively at baseline and at various timepoints in the post-operative period. Data collected including patient demographics, pre,intra and post operative data including recurrence and survival data.

Results

120 women recruited into the study with 59 and 60 patients in the PJ and SST arm respectively and 1 patient withdrawn.
Feasbililty: No concerns around recruitment or retention into the trial.
Complete cytoreduction rate to nil visible disease: PJ vs SST (56.5% vs 43.1%)
Bowel surgery& stoma Rate: PJ vs SST (6.4 vs 12.3%)
Patient QoL: significant improvement in Qol in PJ arm of study.
Survival: both disease free survival (DFS) & overall survival (OS) significantly improved in the PJ arm

Conclusions

First RCT of PlasmaJetTM suggesting PJ may play a role in improving cytoreduction rates without increasing morbidity. Both DFS ($p<0.001$) and OS ($p<000$) in PJ arm suggestive of possible syngergistic effect potentiating chemotherapy and translational work to explore this further is underway. Multicentre RCT involving a clinical trials unit being organised to validate above study results.

P-4

Variation in the outcomes reported by studies of interventions for endometrial cancer: a systematic review (the first step in the development of a CRUK-funded Core Outcome Sets)

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Aims

To evaluate and report the variation of treatment outcomes in all interventional studies for women with endometrial cancer (EC) from 1990 to December 2018 through a systematic review of the literature.

Background

There are numerous medical, surgical, oncological and target-specific options available for managing EC with various types of outcomes being reported. Combined treatment modalities are also common in managing advanced, high-risk stages.

Methods

We searched nine major electronic databases and trial registers. Two independent reviewers screened studies and extracted data on study design, the risk of bias of the studies and the quality of reported outcomes.

Results

We included 300 studies (148,625 women with low grade, early EC and 30,380 women with high grade, advanced EC) which comprised 213 randomised and 85 observational studies and two large case series**.** In total,196 studies evaluated medical management of EC and 104 evaluated surgical management. Ninety (24 early and 66 advanced EC; 30%) interventional studies omitted information related to the primary outcome and its definition or measurement. These studies reported 590 individual outcomes which we grouped into 146 primary (31 early and 115 advanced EC) and 444 secondary (108 early and 336 advanced EC) outcomes, nine outcome domains and 78 specific outcomes. The clinical outcome domain held the highest number of relevant outcomes (33/78; 42.3%). The two most frequently reported outcomes were “progression-free survival” (151/300; 50.3%) and “overall survival” (142/300; 47.3%). We found a huge variation in the types of primary outcomes reported which subsequently influenced the results presented and the impact they carried to future studies.

Conclusion

Most interventional studies on EC regularly omit information related to the primary outcome and its definition or measurement. Implementing a core outcome set in future studies should facilitate in informing outcome measure selection and encourage consistent reporting.

P-5

Can radiological criteria predict women with Recurrent Ovarian Cancer in whom complete secondary surgical cytoreduction will be achieved? A review of 100 cases at The Royal Marsden Hospital

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Aims
To identify 12 radiological criteria predictors of complete secondary cytoreductive surgery to assist case selection.

Background
Recurrence of ovarian cancer presents a clinical dilemma.

Methods
This is a retrospective review of all recurrent cases of ovarian, fallopian tube and peritoneal cancers that had undergone secondary cytoreductive surgery (SCS) with the goal of complete cytoreduction from January 2013 till Dec 2018. Preoperative imaging (CT scans) were available for all patients. Patients with bowel obstruction, Krukenberg tumours and those with imaging older than 2 months prior to surgery were excluded. A consultant radiologist who have responsibility for multidisciplinary meetings (Tumour Board) has reviewed the images and scored the presence or absence of 12 radiological criteria preoperatively for all cases. The radiologist was blind to surgical outcome. Operation reports of all patients were reviewed.

Results
100 patients met the above criteria and were included in the study. Complete cytoreduction was achieved (69%). In the remaining 31 patients the following radiological criteria were associated with incomplete cytoreduction: diffuse non-measurable disease (n=20), subcapsular liver lesions (N=12), omentum involvement with extension to the lesser sac (superior body of pancreas-inferior stomach antrum) (N=7), other sites of disease (N=30).

Intraoperative findings associated with incomplete cytoreduction were: extensive carcinomatosis with widespread small volume disease, infiltrating plaque-like disease on the upper or lower abdomen with multi-visceral involvement, tumour invading right/left pelvic side wall (including iliac vessels), tumour involving sacral/bladder wall, on small bowel mesentery.

Conclusions
These preliminary findings indicate correlation between the imaging criteria and intraoperative findings. Further cases are required to validate if these 12 radiological criteria can predict whether complete secondary cytoreductive surgery is more likely to be achieved or not.

P-6

PTEN loss as a driver in ovarian cancer – multicentre study from Ovarian Tumor Tissue Analysis Consortium assessing clinical and pathological associations

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Aims

We aimed to characterize the role of PTEN expression as a biomarker in epithelial ovarian cancer (OC).

Background

PTEN is frequently lost in ovarian cancer and inhibits the PI3K pathway which is frequently activated as an oncogenic driver pathway in several types of cancer, including histotypes of OC (high-grade serous – HGSOC; endometrioid – ENOC; clear-cell – CCOC; mucinous – MOC; low-grade serous – LGSOC).

Methods

This multicentre observational, prospective survival cohort study of the Ovarian Tumor Tissue Analysis (OTTA) Consortium included 5400 patients (3244 with HGSOCs). Patterns of immunohistochemical PTEN cytoplasmic staining were associated with overall survival time, age, stage, grade, residual tumour, CD8+ tumour infiltrating lymphocytes (TIL) counts, expression of oestrogen receptor (ER), progesterone receptor (PR) and androgen receptor (AR) by means of Cox proportional hazard models and generalized Cochran-Mantel-Haenszel tests.

Results

Loss or downregulation of cytoplasmic PTEN expression was more common in ENOC and CCOC, in younger patients with ENOC (p-value = 0.0001) and was associated with longer overall survival in HGSOC (hazard-ratio: 0.78, 95% CI 0.64-0.93, p-value = 0.0205) and with higher CD8+ TIL counts in CCOC (p-value <0.0001). In HGSOC, heterogeneous expression of PTEN was more prevalent in advanced disease (p-value = 0.019) and significantly associated with higher CD8 counts (p-value = 0.0016). Additionally, in HGSOC, PTEN expression also associated with expression of ER, PR and AR (p-values: 0.0008, 0.062 and 0.0002, respectively).

Conclusions

PTEN loss is a frequent driver across all subtypes of OC and our results showing associations between patterns of PTEN expression, hormonal receptors and CD8+ TIL counts suggest that PTEN expression could be used to inform future trials using combinations of immunotherapy and therapies targeting the PI3K pathway and hormonal receptors in ovarian cancer.

P-7

Continuous Low-Flow Ascites-Drainage Through The Urinary Bladder Via The Alfa-Pump (AP) Closed System In Palliative Patients With Malignant Ascites (MA)

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Aims
To evaluate efficacy, safety and outcomes of the Sequana Medical Alpha Pump (AP) - System, in managing and palliating cancer patients with malignant ascites.

Background
MA is a therapeutic dilemma significantly impairing patients‘ quality of life (QoL). The Sequana Medical AP-System, a subcutaneous, externally rechargeable, implantable device, draining ascites via the urinary bladder, is established in liver cirrhosis, but not in MA. We evaluated the AP-system in cancer patients.

Methods
We performed a retrospective multicentre evaluation of all consecutive patients who received an AP for MA-palliation in 6 centres across 3 European countries. AP was evaluated for its ability to pump MA and cross correlated with survival, symptom and retrospective physician-reported QoL.

Results
Seventeen eligible patients, 70.6% being female, across 13 different tumour types, the most common being ovarian cancer (48%) were analysed; median patients’ age: 63years (range:18-81). Median number of ascetic drainage prior to AP-implantation was 1.2/month (range: 0.1-4.1); median ascitic volume (AV) was 6.6L/month (range:1.8-12.4). Median duration of AP-implantation was 60 minutes (range:30-270) and median post-implantation LOS 4 days (range:2-24). 12 protocol-defined AE occurred in 8 patients: 4 renal failures, 4 pump-/catheter blockages, 3 infections/peritonitis and 1 wound dehiscence. Median AV pumped daily was 303.6ml/day (range:5.6-989.3) and median total AV drained was 28L (range:1-638.6). Median patient post-AP-survival: 100 days (range:10-715) and 16 patients had the pump in situ at death. 4 patients needed 1 single post-implant ascitic drainage. 11 patients received anticancer treatment after AP-implantation. In a physician-reported QoL-questionnaire, 71% experienced an improvement post AP-implantation of at least one of following QoL-parameters: tiredness, pain & bloating, sleeping, SOB, appetite and nutritional-status.

Conclusions
AP appears to be effective in palliating patients with MA and improving their QoL. Its broader implementation in oncology services should be explored.

Disclosures: Work was funded by Sequana

P-8

WITHDRAWN

P-9

The Role of Regular Clinical Follow Up of Gynaecological Oncology Patients - a randomised controlled trial

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Aims

This study aims to assess clinical and psychosocial outcomes of telephone-based nurse follow-up in survivorship care of gynaecological malignancies in a Chinese population.

Background

With increasing burden of survivorship care on specialist clinics, exploration on the feasibility of a nurse led telephone follow up system is needed.

Methods

Women with endometrial or ovarian cancer who were attending regular post treatment follow up at a tertiary referral centre were randomised into two groups – Group 1: Telephone follow up by nurses and Group 2: Gynaecologists clinic follow up at a tertiary referral centre. Women in Group 1 were asked about their symptoms by telephone and taken through a QoL questionnaire (EORTC-QLQ 30) and HADS anxiety questionnaire. Those treated for ovarian malignancies also attend the hospital for CA125 measurement only. Women in Group 2 were followed-up by gynaecologists at a tertiary referral centre. They underwent symptoms review and physical examinations. Those with endometrial cancer also had vault smears taken while those with ovarian cancers had CA125 measured. They were also asked to complete a QoL questionnaire.

Results:

385 women, 215 with endometrial and 170 with ovarian cancer, were randomized (n= 191 and 194 in Group 1 and 2 respectively). There was no significant difference in the detection of recurrence by the two methods. However, patients in the nurse-led arm scored higher on emotional (88.5 vs 82.2; p=0.023) and cognitive functioning (86.4 vs 81.6; p =0.012). Those in the gynaecologist-led arm scored higher on the HADS Anxiety Scale (3.55 vs 2.31; p=0.001) and were more likely to report symptoms.

Conclusions:

Our results demonstrate a preliminary non-inferiority of nurse-led follow-up, with improved psychological morbidity and quality of life. Thus, telephone nurse-led follow-up can be considered an effective substitute for hospital-based care.

P-10

Barriers to Patient Participation in Cancer Research: An Exploratory Mixed Methods Study

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Aims

1. Establish consensus and guidance on approaching cancer patients for inclusion in formal research and biobanking
1) Through patient participation formulate theories on barriers to research.

Background

NHS England, NIHR and NCRI actively support research within the NHS with the goal of achieving 20% participation by 2020. This can only be achieved if professionals work with patients to embed research into every aspect of healthcare. It is unclear what the obstacles to participation are: patient or professional factors.

Methods

Patients with gynaecological malignancy in a tertiary cancer centre, healthcare professionals and lay public were invited to participate. Participants completed a semi-structured questionnaire including basic demographic data, and a subgroup of patients underwent qualitative one-to-one interviews which were recorded, transcribed verbatim and analysed by emergent themes. Analysis was stratified by cohort group, age, and treatment phase.

Results

100 responses were collected from 31 patients (at various phases of cancer treatment from diagnosis, through to palliation), 41 professionals and 28 public.

71 -84% of respondents thought that every patient should be offered opportunity to participate in research and biobanking. It was acceptable to approach patients prior to, or at early hospital appointments, on admission and at relapse. A variety of non-invasive research methodologies were acceptable by the majority with 98% agreeing that opportunistic tumour sampling during surgery was acceptable and 62% willing to consider additional invasive biopsies exclusively for research.

Thematic analysis of interview transcripts showed strong altruistic desire to contribute to future diagnostic and therapeutic approaches and improve experiences for other patients. Some expressed concerns for vulnerable patient groups, highlighting the importance of informed consent.

Conclusions

Biobanking and clinical research are essential tools to improve oncology care. Applicability of resulting research is dependent upon universal inclusion. Patient and public enthusiasm for research is high. Gatekeeping patients from the perceived burden of research is not justified and we should offer the opportunity to all. This study highlights need to further invest in research information resources and research training of healthcare professionals.

P-11

The effects of neo-adjuvant chemotherapy on myeloid cells in high-grade serous ovarian cancer metastases

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Aims

To assess the effects of chemotherapy on tumour associated macrophages (TAMs) in high-grade serous ovarian cancer (HGSOC).

Background

Many tumours have abundant macrophage populations. TAMs frequently have tumour promoting roles and are associated with poor clinical outcome. We hypothesise that targeting TAMs in HGSOC may improve response to chemotherapy.

Methods

We have assessed the effects of chemotherapy on TAM populations in human HGSOC obtained pre- and post-chemotherapy as well as in murine HGSOC models harbouring a relevant mutational profile.

Results

We find that chemotherapy treatment decreases TAM density within tumour areas. Furthermore, TAMs expressing markers known to associate with disease progression were decreased following chemotherapy. *In vivo* and *in vitro* we have demonstrated an upregulation of inflammasome activation and TLR signalling in live myeloid cells following chemotherapy and have shown that macrophages are killed by chemotherapy at clinically relevant drug concentrations. These observations suggest a mechanism for TAM depletion and highlight chemotherapy induced activation of innate immunity in HGSOC.

The majority of HGSOC patients respond well to first line chemotherapy but will relapse and succumb to treatment resistant disease. We have developed a murine model of HGSOC relapse after first-line chemotherapy, which has the potential to extend translational studies into this clinically important area. We have found that TAMs are re-established in tumours at relapse, suggesting a clinically defined window of opportunity to target TAMs in HGSOC following first-line chemotherapy.

Conclusions

Overall, our results provide a rationale for targeted re-programming of TAMs in HGSOC after chemotherapy.

P-12

ATHENA (GOG-3020/ENGOT-ov45; EudraCT 2017-004557-17; NCT03522246): A Randomised, Double-Blind, Placebo-Controlled, Phase 3 Study of the Poly (ADP-Ribose) Polymerase (PARP) Inhibitor Rucaparib + the PD-1 Inhibitor Nivolumab Following Frontline Platinum-Based Chemotherapy in Ovarian Cancer

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Aims

To evaluate rucaparib + nivolumab as maintenance treatment following frontline platinum-based chemotherapy in patients with newly diagnosed, high-grade ovarian, fallopian tube, or primary peritoneal cancer.

Background

Rucaparib has clinical activity in patients with recurrent ovarian cancer with or without homologous recombination (HR) deficiency (HRD; eg, a *BRCA* mutation or high genomic loss of heterozygosity [LOH]) and may provide clinical benefit as maintenance therapy following frontline treatment. The rationale for combining rucaparib + nivolumab includes: tumours with deleterious *BRCA* mutations express tumour-specific neoantigens, which attract PD-L1-expressing, tumour-infiltrating lymphocytes; ovarian tumours with HRD have more neoantigens relative to HR-proficient tumours and may respond to immune checkpoint inhibitors; rucaparib + anti-PD-1/PD-L1 demonstrated improved antitumour activity in an ovarian cancer model; it is hypothesised that PARP inhibitor–induced DNA damage may increase neoantigens regardless of HRD status.

Methods

Eligible patients must have completed cytoreductive surgery and achieved an investigator-assessed response to frontline platinum-based doublet chemotherapy without disease progression or rising CA-125 during frontline treatment. Patients will be randomised 4:4:1:1 to receive maintenance treatment in Arm A (oral rucaparib 600 mg BID + intravenous [IV] nivolumab 480 mg Q4W), Arm B (oral rucaparib + IV placebo), Arm C (oral placebo + IV nivolumab), or Arm D (oral placebo + IV placebo). Stratification factors include centrally determined tumour HRD status (*BRCA* mutant, non-*BRCA* mutant/LOH high, non-*BRCA* mutant/LOH low, or non-*BRCA* mutant/LOH unknown), posttreatment disease status (residual vs no residual disease), and timing of surgery (primary vs interval debulking). Investigator-assessed progression-free survival (PFS, RECIST v1.1, primary endpoint) will be compared between arms. Secondary endpoints include blinded independent central review of PFS, overall survival, objective response, and safety.

Results

Patients (n≈1000) will be enrolled at >270 sites worldwide, including the UK.

Conclusions

ATHENA is evaluating rucaparib + nivolumab as frontline maintenance treatment in patients with ovarian cancer.

P-13

A nurse led monitoring clinic for the safe management of ovarian women receiving niraparib therapy

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Background

The recently approved drug niraparib has entered the treatment pathway for ovarian women who have previously responded to platinum therapy and there are initial monitoring requirements that should be adhered to. This creates some workforce and organisational challenges and novel solutions are required. Beyond cycle 1 it is current practice to alternate between oncologist /nurse with regards to review and this new therapy lends itself to a further examination and perhaps a different schedule would be appropriate ie oncologist review every 3 months

Methods

We established a nurse led remote monitoring clinic including community blood tests. The pathway involves weekly blood tests and telephone assessment to ensure safe administration of nirapraib. An assessment proforma is completed including assessment of myelosuppressive effects and other non-haematological toxicities. An assessment of impact on activities of daily living are also recorded as well as concordance.

Results

The clinic has been established now for five months and the poster will outline the current pathway and offer illustrative cases of activity including dose delay and dose reduction. The most common side effects have been nausea and fatigue and the nurse is best placed to advise regarding management.

Conclusions

The clinic has proved an efficient and safe solution for this group of patients and has been welcomed by the organisation in terms of a reducing the footfall into existing clinics, the nurses who feel this is a safe and efficient way to monitor patients and the patients themselves who welcome the reduction in hospital visits.

P-14

Role of metformin on cell proliferation and apoptosis in cervical cancer

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Aim

To examine the role of metformin in cervical cancer using in-vitro studies.

Background

Cervical cancer is the fourth commonest gynaecological malignancy in the world. For those who have distant metastasis, the prognosis is poor. The mainstay treatment is chemotherapy with or without bevacizumab, as well as immune checkpoint inhibitor. However, the response rate remains poor. The aim of this study is to examine the role of metformin in cervical cancer.

Methods

The in-vitro effects of metformin on the proliferation and apoptosis on cervical cancer and the underlying mechanisms were evaluated using two cell lines, SiHa and C4-I.

Results

Metformin was able to suppress cell proliferation in both cervical cancer cell lines in a dose-dependent manner. Metformin inhibited IGF-1R expression especially in SiHa and in turn, it reduced the proliferative effect of AKT/mTOR and MEK/MAPK on cancer cells. It also activated AMPK to suppress the mTOR and p70S6K, leading to decrease of cell growth. Moreover, treatment of cancer cells with metformin induced apoptosis, which was likely due to the activation of the p38MAPK and JNK cascades. Similar actions of metformin were also observed in AMPK-silenced cells where the expression of cleaved PARP expression was induced, and the expression of total PARP, AKT, MEK1/2 and p44/42MAPK was reduced. All these suggested that metformin functioned through both AMPK-dependent and AMPK-independent pathways.

Conclusion

Metformin inhibited cervical cancer cell proliferation and induced apoptosis through various cell signalling cascades, including inhibiting IGF-1R/AKT/mTOR and MEK/MAPK cascades, activation of AMPK, inhibition of mTOR, and activation of p38MAPK. Metformin may be useful as combined treatment in cervical cancer and further research is needed.

P-15

WITHDRAWN

P-16

Retrospective Audit of Tumour BRCA Testing Service for Relapsed Ovarian Cancer Patients in the UK

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Aims

To audit the tumour BRCA (tBRCA) testing service offered for frequency of gene mutation in the UK by AstraZeneca (AZ) for ovarian cancer patients during their second disease relapse or beyond.

Background

From July 2017 to present, AZ contracted with three National Health Service labs to provide a tBRCA testing service to ovarian cancer patients with either a known negative germline BRCA mutation or an unknown germline BRCA mutation status. Patients must have received at least two prior lines of treatment.

Methods

Whole gene sequencing on BRCA 1 and BRCA 2 using next generation sequencing on Formalin-Fixed Paraffin-Embedded tumour samples was performed. Frequency of gene mutations were derived from samples received between 1st July 2017 and 28th February 2019. Time between receiving the sample to having test results available was also assessed.

Results

403 tumour samples received, 357 (88.6%) were successful, 13 (3.2%) are still awaiting results and 33 (8.2%) were unsuccessful. The average sample turnaround time was 21 working days (5-50 days).

The tables present the gene mutation frequency:

	N
Total Results Obtained	357 (100%)
Pathogenic tBRCA Mutation	62 (17.4%)
No Pathogenic Mutation	295 (82.6%)

	N
Total Samples with Negative Germline Mutation	235 (100%)
Pathogenic tBRCA Mutation	42 (17.9%)
No Pathogenic Mutation	193 (82.1%)

	N
Total Samples with Unknown Germline BRCA Status	122 (100%)
Pathogenic tBRCA Mutation	20 (16.4%)
No Pathogenic Mutation	102 (83.6%)

Conclusions

The AZ tBRCA testing service demonstrated that the majority of samples provided successful test results of tBRCA mutation frequencies in the relapsed ovarian cancer population included in this UK based service. Further, the reasonable turnaround time suggests that this service could be useful in informing clinicians about optimal treatment decisions.

P-17

The SWI/SNF chromatin remodelling complex in endometriosis-associated ovarian cancer.

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Aims

To identify the prevalence of mutations in the genes encoding components of the SWI/SNF chromatin remodelling complex in endometriosis-associated ovarian cancers.

Background

The poor prognosis of ovarian cancer is due to late presentation and resistance to chemotherapy. *ARID1A* is frequently mutated in endometriosis-associated ovarian clear cell (OCCA) and ovarian endometrioid adenocarcinoma (OEA). *ARID1A* encodes BAF250a, a component of the SWI/SNF chromatin-remodelling complex. Understanding the prevalence of mutations in SWI/SNF complex component genes may help develop biomarkers for behaviour and prognosis of OCCA and OEA.

Methods

We identified 53 formalin fixed paraffin embedded endometriosis-associated OCCA and OEA samples with paired normal tissue. To identify somatic mutations, we performed exome sequencing of 40 genes on tumour and normal sample DNA on an Illumina Mi-seq platform using 150bp paired-end sequencing chemistry.

Results

6 of 23 (26.1%) OCCAs had 8 high/moderate impact/modifier *ARID1A* mutations. Seven of 23 (30.4%) OEAs had 10 high/moderate impact/modifier *ARID1A* mutations. We identified high/moderate impact mutations in other genes that encode SWI/SNF chromatin remodelling complex components: *ARID1B*, *ACTL6A*, *PBRM1*, *SMARCA4*, *SMARCA2* and *SMARCB1*. *ARID1A* and *ARID1B* mutations were mutually exclusive. There was a high prevalence of *SMARCA4* (encodes BRG) mutations: 27 *SMARCA4* moderate impact/modifier mutations in 17 samples. 8 of 23 (34.8%) OEA samples carried one *SMARCA4* mutation each. 6 of 23 OCCA samples carried at least one *SMARCA4* mutation; one sample contained 3 mutations. 5 OCCA/OEA mixed samples contained 1 to 4 moderate impact/modifier mutations.

Conclusions

There is a high prevalence of mutations in SWI/SNF complex genes in endometriosis-associated ovarian cancer. Low BRG expression is associated with platinum sensitivity in lung cancer. This could therefore be clinically relevant when planning personalised treatment. Further research to determine the association of mutations with the protein levels is warranted to develop relevant biomarkers in new trials of OCCA and OEA.

P-18

Germline BRCA mutation status does not increase the risk of serous endometrial cancer nor independently influence survival outcomes

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Aims

To investigate whether *BRCA1/2* mutations are over-represented in uterine cancer patients in NHS Tayside, enabling assessment of the need for prophylactic hysterectomy, and whether *BRCA* mutation status is an independent clinical outcome predictor in gynaecological cancers.

Background

Recent studies present opposing views on the risk of uterine cancer in women with germline *BRCA* mutations (1,2) – confirmation of increased risk would support prophylactic hysterectomy in these patients. While *BRCA* mutation status in ovarian cancer is associated with increased risk, improved survival and is routinely used to guide PARP inhibitor treatment, less is known about prognostic significance in uterine cancer.

Methods

Uterine cancer incidence in women with germline *BRCA* mutations in NHS Tayside (diagnosed from 1990-2018) was compared to population incidence data obtained from ISD Scotland. Kaplan-Meier survival plots and Cox regression analyses were used to investigate the predictive power of *BRCA* mutation status, type and location in both uterine and ovarian Cancer Genome Atlas (TCGA) datasets.

Results

No uterine cancers were diagnosed in *BRCA* positive females (n=190), in contrast to an average incidence of 20.6/100,000 women years in the Tayside population in the same period. *BRCA1* (Log-Rank Chi-Square=4.112, p=0.043) and *BRCA2* (Log-Rank Chi-Square=5.382, p=0.020) mutation status was associated with improved progression-free survival in TCGA uterine cancer datasets, although neither association was independent of tumour stage. Similar associations were seen in high-grade serous ovarian cancer,but were not independent of tumour stage or platinum sensitivity.

Conclusions

Our data does not confirm increased risk of uterine cancer in germline *BRCA* mutation carriers. *BRCA* mutation status does not independently predict uterine cancer prognosis, but may be a useful surrogate for treatment-response, particularly in early stage disease. Further investigation of *BRCA* mutation status may help to support ongoing clinical trials in which genotype-guided PARP inhibitor prescription, now routine in ovarian cancer patients, is under evaluation in uterine cancer.

References

1. Shu CA, Pike MC, Jotwani AR, Friebel TM, Soslow RA, Levine DA, et al. Uterine Cancer After Risk-Reducing Salpingo-oophorectomy Without Hysterectomy in Women With BRCA Mutations. JAMA Oncol. 2016 Nov 1;2(11):1434–40.
2. Lee YC, Milne RL, Lheureux S, Friedlander M, McLachlan SA, Martin KL, et al. Risk of uterine cancer for BRCA1 and BRCA2 mutation carriers. Eur J Cancer. 2017 Oct;84:114–20.

P-19

Impact of Population Genetic Testing and Ovarian Cancer Risk Stratification on the Well-being and Health of unselected Women in a general population

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Aims

To understand range of attitudes, experiences and impact on emotional well-being and health of women undergoing unselected-panel-genetic-testing (PGT) and ovarian-cancer (OC) risk stratification.

Background

Algorithms for predicting OC-risk, and biomarker based screening for OC have been developed and validated in the 'Predicting Risk of Ovarian Malignancy Improved Screening and Early detection' (PROMISE) programme. This provides potential for population stratification for OC-risk prediction, screening and prevention. We present the results of a qualitative study examining emotional wellbeing and impact on lifestyle following unselected PGT and risk stratification for OC in OC-unaffected women ≥18 years with no prior history of PGT for OC genes, ascertained through primary care networks in the PROMISE Feasibility-Study (ISRCTN 54246466). This is the first qualitative-study in unselected-general-population women undergoing PGT.

Methods

In-depth semi-structured 1:1 interviews were conducted using a pre-developed topic-guide (development informed by literature review/expert consultation) until informational saturation reached. Wording and sequencing of questions were left open with probes used to elicit additional information. All interviews were audio recorded and transcribed verbatim. Questions were fine-tuned during a pilot-interview. Transcripts were analysed using an inductive theoretical framework and data managed using NVIVO-v12.

Results

Informational saturation was reached following ten interviews. Eight interconnected-themes were identified: health behavioural choices; interest; counselling; decision making; facilitators/barriers determining acceptability; effect of results on health/wellbeing; results communication; satisfaction. Overall satisfaction with PGT/OC-risk stratification was high and none expressed regret. Most important facilitators were ease of testing, learning about children's risk, access and ease of surgical prevention. Barriers included change in family dynamics, insurance, stigmatization, having personality traits associated with stress/worry.

Conclusions

Population-based genetic-testing for OC-risk prediction in general-population women is associated with high acceptability and satisfaction. The facilitators and barriers observed are largely similar to those reported with genetic-testing seen in high-risk cancer clinics and unselected testing in the Jewish population.

P-20

Attitude towards and factors affecting uptake of unselected population based BRCA testing in the Ashkenazi Jewish population: a cohort study

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Aims

To evaluate factors affecting unselected population based BRCA testing in Ashkenazi-Jews (AJ).

Background

Unselected population based BRCA testing provides the opportunity to apply genomics on a population scale to maximise primary prevention for ovarian and breast cancer. We present an evaluation of factors affecting unselected population based BRCA testing in Ashkenazi Jews (AJ) recruited to the GCaPPS trial (ISRCTN73338115). Our main outcome measures were: interest, intention, uptake, attitude towards BRCA testing

Methods

Design: Cohort study set within recruitment to the GCaPPS-trial (ISRCTN73338115).
Setting: North London AJ-population.
Population: AJ women and men >18-years, recruited through self-referral.
AJ-women/men underwent pre-test counselling for BRCA testing via recruitment clinics (clusters). Consenting individuals provided a blood sample for BRCA testing. Socio-demographic/family-history/knowledge/psychological well-being data along-with benefits/risks/cultural influences (18-item-questionnaire measuring 'attitude') were collected.
4-item likert-scales analysed initial 'interest' and 'intention-to-test' pre-counselling. Uni-&-multivariable logistic-regression-models evaluated factors affecting uptake/interest/intention to undergo BRCA testing. Statistical inference was based on cluster robust standard-errors and joint Wald-tests for significance. Item-Response-Theory and graded-response-models, modelled responses to 18-item questionnaire.

Results

935 (women=67%/men=33%; mean-age=53.8(S.D=15.02) years) individuals underwent pre-test genetic-counselling. Pre-counselling 96% expressed interest but 60% indicated clear intention-to undergo BRCA testing. Subsequently 88% opted for BRCA testing. BRCA-related knowledge (p=0.013) and degree-level education(p=0.01) were positively and negatively (respectively) associated with intention-to-test. Being married/cohabiting had four-fold higher-odds for BRCA-testing uptake (p=0.009). Perceived benefits were associated with higher pre-counselling odds for interest and intention-to undergo BRCA-testing. Reduced uncertainty/reassurance were the most important factors contributing to decision-making. Increased importance/concern towards risks/limitations (confidentiality/insurance/emotional-impact/inability to prevent cancer/marriage-ability/ethnic-focus/stigmatization) were significantly associated with lower-odds of uptake-of BRCA-testing, and discriminated between acceptors and decliners. Male-gender/degree-level-education (p=0.001) had weaker, whilst having children had stronger (p=0.005) attitudes towards testing.

Conclusions

BRCA-testing in the AJ-population has high acceptability. Pre-test counselling increases awareness of disadvantages/limitations of testing, influencing final cost-benefit perception and decision-making on undergoing BRCA-testing.

P-21

Incidence of Second Cancers in Patients with Endometrial Cancer; A case for Lynch Testing?

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Aims

We investigated the frequency of second cancer diagnoses, in particular Lynch associated cancers, in patients treated for endometrial cancer (EC).

Background

EC incidence is increasing and Lynch Syndrome accounts for 5% of EC. The recent Manchester International Consensus Group have recommended a policy of universal screening for Lynch Syndrome in EC patients to aid direction of treatment, surveillance programme enrolment and family screening.

Method

We undertook a review of patients who underwent radical surgery followed by EBRT for EC between January 2014 – December 2016 in Kent Oncology Centre and identified patients who were diagnosed with another primary cancer in addition to their EC diagnosis.

Results

A total of 15 of 163 women (9%) were diagnosed with more than one primary cancer. The scope of this study did not include patients who did not require radiotherapy, or patients not suitable for radiotherapy, which may include patients who previously received pelvic radiotherapy for another cancer.

Four patients had a second cancer strongly associated with Lynch Syndrome; two patients had synchronous ovarian primaries, one had a subsequent colorectal cancer and another had prior colorectal cancer and subsequent gastro-oesophageal carcinoma.

Routine screening for Lynch syndrome was not undertaken on any patients. Two patients were later referred to genetic services, one following a subsequent diagnosis of colorectal cancer and the other following a diagnosis with breast cancer.

Conclusion

At present patients with EC are not routinely screened for Lynch Syndrome. Our study found 2 patients with synchronous Lynch associated tumours and 2 patients who developed subsequent Lynch associated tumours, within a short follow-up period. Had routine testing been undertaken and the patients shown to have Lynch Syndrome we would have had the opportunity to enrol patients on screening programmes and to screen family members.

P-22

The Role of KRAS in Endometrial Cancer: A Mini-Review

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Aims

This article reviews the role of *KRAS* in predicting transition from hyperplastic endometrium to early-stage well-differentiated EC, as well as further invasive proliferation of the tumour to advanced-stage disease.

Background

Endometrial cancer (EC) is the most common cancer of the female genital tract, resulting annually in 76,000 related deaths worldwide. EC originates either from oestrogen-related proliferative endometrium (type I, endometrioid), or from atrophic endometrium (type II, non-endometrioid). Each type of EC is characterized by different molecular profile alterations. The Kirsten rat sarcoma viral oncogene homolog (*KRAS)* gene encodes a signalling protein which moderates response to various extracellular signals *via* down-regulation of the mitogen-activated protein kinase (MAPK) or phosphoinositide-3-kinase/v-akt murine thymoma viral oncogene (PI3K/AKT) pathways.

Methods

We performed a narrative review of the literature using a specific keywork strategy.

Results

KRAS seems to be directly associated with type I EC, and most studies support its early involvement in carcinogenesis. Current evidence correlates *KRAS* mutations with increased cell proliferation and apoptosis, as well as up-regulation of endometrial cell oestrogen receptors. Tumours positive for *KRAS* mutation can harbour hypermethylation-related changes in genome expression, and this can be the cause of concurrent loss of DNA repair proteins. Despite some evidence that *KRAS* mutation status affects cancer progression, a consensus is yet to be reached.

Conclusions

Based on the available evidence, we suggest that screening for *KRAS* mutations in patients with hyperplastic endometrium or early-stage type I EC, may provide important information for prognosis stratification, and further provision of personalised treatment options.

*These Authors contributed equally to this study.

Key Words: Endometrial cancer, KRAS, endometrial hyperplasia, molecular biomarkers, review.

P-23

Should we offer multi-gene testing to all patients with breast cancer: a cost-effectiveness analysis

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Aims

To estimate incremental lifetime-effects, costs, and cost-effectiveness of multigene-testing all breast cancer (BC) patients compared to current practice of family-history/clinical-criteria based genetic (BRCA)-testing.

Background

Currently BC patients are offered genetic-testing only if they have a ≥10% risk of being a BRCA carrier based on family history and clinical criteria. However, this approach misses a large proportion (~50%) of overall mutation carriers as they fall below this 10% threshold.

Methods

We developed a patient-level microsimulation model to estimate the lifetime costs-&-effects for all UK and USA BC patients. Data were obtained from 11,836 BC patients (regardless of family-history) recruited to four international clinical trials. All women diagnosed with BC are offered genetic testing for BRCA1, BRCA2 & PALB2 mutations. Mutation carriers can choose contralateral prophylactic mastectomy to reduce contralateral BC-risk and prophylactic oophorectomy to prevent OC. Relatives undergo cascade testing to inform BC/OC prevention. Identified carriers undergo annual screening/chemoprevention/risk-reducing mastectomy for BC and risk-reducing salpingo-oophorectomy for OC. The main outcome measure was the incremental cost per quality-adjusted life-year (QALY) gained with a 3.5% annual discount. Parameter uncertainty was explored using one-way and probabilistic sensitivity analyses.

Results

Compared with the current clinical/FH-based genetic testing, offering unselected genetic testing to all BC patients would cost £10,470 in the UK or $58,702 in the US per QALY gained (below UK & US thresholds of £30,000/QALY & $100,000/QALY). Testing all BC patients annually can prevent1,776 BC/OC cases and 557 deaths in the UK and 8,258 BC/OC cases and 2,143 deaths in the US respectively. The results are shown to be robust through the sensitivity analyses.

Conclusions

Unselected panel genetic-testing for all BC patients compared to current clinical-criteria restricted testing is extremely cost-effective. We recommend changing the current policy to expand genetic testing to all BC patients.

P-24

A review of the management of stage II/III endometrial cancer in the Northern Ireland Regional Cancer Centre – should we SIMPLIFY things?

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Aims

Practice in the Northern Ireland Regional Cancer Centre was compared with current ESGO and BGCS guidance.

Background

ESGO guidance (2016) recommends simple hysterectomy and lymphadenectomy (PLN / PALN) for stage II and III endometrial cancer. BGCS guidance (2017) also recommends simple hysterectomy in both stage II/III disease, but advises reserving lymph node dissection for stage III only.

Methods

A retrospective case-note review was performed for patients undergoing surgery for stage II/III endometrial cancer in the NI Regional Cancer Centre between 2013 and 2018.

Results

53 cases were identified, with mean age 60.5 years and mean BMI 30.6 kg/m2. 62% of the cohort had stage II endometrial cancer on pre-operative MRI; and 38% stage III.

50% of surgeries were performed by Consultants 'buddy-operating'. All patients underwent radical hysterectomy - 84% laparoscopically, with a conversion to open rate of 6.9%. 96% had concomitant BSO; 94% PLND and 23% PALND. PALND was performed in 25% with pre-operative stage III disease. One case of bowel injury occurred intra-operatively.

Histopathology reported parametrial involvement in 19% of pre-operative stage II and 25% of pre-operative stage III cases. Histopathology also identified positive PLN in 19% and 25% of pre-operative stage II and III cases respectively; and positive PALN in 3.8% and 6.3% of these cases.

Post-operatively, 7% of patients required HDU. The mean haemoglobin drop was 15 g/dl. Urinary retention was the most common complication (19%). Mean length of stay was 4.9 days.

Conclusions

In accordance with current guidance and in light of the higher morbidity associated with a radical approach, a change of practice to simple hysterectomy has been recommended within the unit. The role of lymphadenectomy remains controversial, particularly in stage II disease; a population which may particularly benefit from the introduction of sentinel lymph node sampling in the future.

P-25

The role of apronectomy in gynae cancer surgery on the morbidly obese patient: A review of four cases

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Aims

The aim is to describe the short-term outcomes of performing apronectomy at the time of laparotomy for gynae malignancy in the morbidly obese patient.

Background

For the morbidly obese patient undergoing laparotomy and pelvic clearance in the context of an oestrogen-driven gynae cancer, concomitant apronectomy confers multiple benefits - optimising intra-operative pelvic access; improving post-operative recovery and general health; as well as also having the potential to reduce future peripheral oestrogen production, with positive implications for cancer recurrence.

Methods

A retrospective case-note review of morbidly obese patients undergoing apronectomy as a component of gynae cancer surgery between 2017 and 2019 in a district general hospital in Northern Ireland was performed.

Results

Four patients were identified, with mean age 56 years and mean BMI 53kg/m2. Three patients were undergoing laparotomy for endometrial adenocarcinoma, and the fourth for suspected ovarian malignancy.

At each surgery, the operating team consisted of a minimum of three Consultants: one gynae-oncologist, one gynaecologist and one plastic surgeon. No anaesthetic complications occurred. Each patient received intra-operative antibiotic prophylaxis and underwent TAH, BSO, omentectomy/omental biopsy and apronectomy with re-siting of the umbilicus. The average weight of apron excised was 9.6kg. Each patient had two negative-pressure wound drains placed. Skin was closed with monofilament sutures and negative-pressure dressings applied. No intra-operative complications occurred, the maximum blood loss was 300mls and mean operating time 217 minutes.

One patient required HDU for 24hours. Immediate post-operative complications included anaemia (50%); wound infection/partial dehiscence (50%); one case of return to theatre for debridement of a non-viable umbilicus; paralytic ileus (25%); and urinary tract infection (25%). The mean length of stay was 16 days. In the 30 day post-operative period, one patient was readmitted with wound infection.

Conclusions

Overall, apronectomy appears to be a safe addition to laparotomy in this challenging patient population.

P-26

Is it the time to move towards early histologic diagnosis before surgical management of advanced ovarian cancers?

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Aims

This study was designed to explore the frequency of patients who presented and received treatment for suspected ovarian cancer, who did not have gynaecological cancer. It also examines factors that may have contributed to their presentation at a gynaecological cancer centre and the outcomes post treatment.

Background

Treatment of advanced ovarian cancer is a combination of surgery and chemotherapy. NICE recommends that a confirmed tissue diagnosis is necessary before the commencement of chemotherapy (NICE CG122, 2011). However, for the surgical treatment of advanced ovarian cancer, there is currently no recommendation for pre-treatment tissue diagnosis. The absence of a histologic diagnosis before surgical treatment could lead to less specificity in the selection of patients receiving surgical intervention.

Methods

A retrospective study was carried out at the Northern Gynaecological Oncology Centre (NGOC), Gateshead the United Kingdom, looking at patient referrals between 2008 - 2011. Extracted data from electronic patient records was analysed to obtain the frequency of non-gynaecological cancer referrals to the study centre, as well as the types of treatment they received on referral.

Results

There were 864 referrals in the study period, of which 764 (88.4%) were confirmed ovarian malignancies. Gastrointestinal malignancies made up 60 (6.9%) of this cohort, breast malignancies 8 (0.9%) and the remaining 32 (3.7%) arising from other sites.

Of 704 (81.5%) patients that had surgical treatment, 48 (6.8%) had primary surgery for non-gynaecological cancers undertaken by a Gynae-Oncologist in a gynaecological cancer specialist referral centre. These 48 patients received treatment by a non-specialist in their disease at the first instance, due to a lack of a definitive diagnosis before surgical treatment.

Conclusions

Findings from this study, suggests that undertaking a pre-treatment histology for all women regardless of the mode of treatment is imperative in ensuring the appropriateness of intervention by the correct specialist and good patient outcomes.

P-27

Midline laparotomy incision: Do all consultant surgeons perform it the same? A single centre anonymous questionnaire

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Aims

To evaluate the current practice of midline laparotomy incisions among surgeons.

Background

There is strong evidence that the use of diathermy has significant advantages over scalpel for skin incisions. These include: shorter incision time, less bleeding and reduced post-operative pain. However, there is no consensus on which layers to use diathermy for, the diathermy setting (Coagulation, Cutting or Blended) or the energy values, or wattage (W) to be used.

Methods

A link to a 10-question survey on midline laparotomy technique was emailed to 65 consultant surgeons from different specialties, asking for specific details regarding how surgeons perform midline incisions.

Results

The questionnaire was sent to 23 gynaecology, 18 gastrointestinal (6 upper GI, 6 colorectal and 6 general surgery), 16 vascular, 20 urology and 4 paediatric consultant surgeons. There were responses from 33 consultants who perform midline laparotomy - a response rate of 50.7%. For skin incision, 2/33 (6%) used monopolar diathermy (cutting 35W, 50W), and 31/33 (94%) used scalpel. For the subcutaneous tissue, 3/33 (9%) used scalpel and 30/3 (91%) used monopolar diathermy. For the rectus sheath or linea alba, 3/33 (9%) used scalpel, 1/33 (3/%) used scissors or scalpel and 29/33 (88%) used monopolar diathermy. For the peritoneum, 5/33 (15%) used scalpel, 5/33 (15%) used monoplolar diathermy and 23/33 (70%) used scissors. When monopolar diathermy was used it varied among surgeons in energy value and mode (cutting, coagulation or blended). Coagulation mode was the most common used, with an energy range between 5 to 50W. The median wattage used was 30W.

Conclusion

There is technique variation between surgeons in midline laparotomy whether in choosing the surgical tool or the mode and energy when electrosurgery is used. More research is required to assess if any particular technique is superior for patient outcomes, or whether more regulation should be implemented.

P-28

WITHDRAWN

P-29
Clear Cell Ovarian Carcinoma – a 14 years review

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Aims
We aim to assess whether the current literature data applies to our population. We would be able to provide our population with relevant local data.

Background
Epithelial ovarian carcinoma is the most lethal gynaecologic malignancy. Clear cell cancers are notorious for being chemoresistant, and endometriosis is a predisposing factor.

Methods
This is a cross section review of presentations and management of clear cell cancers.
95 patients diagnosed with clear cell ovarian carcinoma at Pan Birmingham Cancer Centre from October 2005 to February 2019 were included.
The data were recorded and analysed in an Excel.

Results
The median age at surgery was 50.
Stage I and II represented 54% and were confined to the pelvis.
91 cases were clear cell ovarian carcinoma, 3 were primary peritoneal clear cell and 1 was fallopian tube clear cell.
Type I debulking surgery was required in the majority of cases.
8 cases out 95 (8.42%) required secondary debulking for recurrent disease. One of them, staged as 2B, had 3 further re-interventions related to recurrences.
There was optimal cytoreduction in 38 cases, and residual disease in 4 cases.
81 patients were followed up with a mean of 114 weeks (2 years and 1 months).
8 patients died (8.42%), 46 (48.4%) were alive without disease, and 26 (27.3%) alive with disease within the mean time of follow up.

Conclusions
The recent literature shows that clear cell ovarian carcinoma has a better prognosis and survival as diagnosed at early stages. The majority of the clear cells cancers present as pelvic confined disease. Type I and Type II ovarian debulking surgery in usually required. Upper abdominal debulking surgery is required in a small number. Our review keeps in line with these data.

P-30

A Review of Endometrial Cancer Cases in a Single Centre Between 2013-2018

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Aims

To review diagnosis, management and complications of patients treated for endometrial cancer in a single centre in a 5-year period, in comparison with national guidelines and statistics.

Background

Countess of Chester Hospital (COCH) is a cancer unit. The nearest cancer centre is Liverpool Women's Hospital (LWH), where patients with high-grade histology are referred. Risk factors for endometrial cancer include; age, obesity and unopposed oestrogen exposure. Laparoscopic hysterectomies are superior to abdominal due to shorter hospital stay, faster recovery, lower total blood loss and fewer complications(14,15).

Methods

Patients were included if they were diagnosed and treated for endometrial cancer at COCH in the last 5 years. Exclusion criteria were; non-operative management and surgery undertaken at a different location. 92 patients were included. Data were gathered via Meditech (local electronic health record system) and clinic letters.

Results

Age at diagnosis ranged from 46 to 93 years (mean 65), slightly younger than the equivalent national age-specific incidence(8). 61% of patients were classed as obese or very obese(16,17). 95% (n=87) were diagnosed with endometrioid adenocarcinoma. Other cancers included 3 mucinous, 1 squamous cell and 1 carcinosarcoma. 97% (n=89) had laparoscopic hysterectomies. The major intra-operative complication rate was 1% (NICE safety evidence quotes 8% from national meta-analysis(15)). 34 (38%) patients had adjuvant treatment after surgery. 6 patients (7%) had recurrences, of these, only 1 died.

Conclusions

COCH are compliant with national guidelines on management of endometrial cancer set by the BGCS and NICE. Results are consistent with the Trust's status as a cancer unit – younger, mostly adenocarcinomas and treated with laparoscopic surgery. High BMIs suggests increasing obesity in the population is contributing to rising incidence of endometrial cancer. Areas for improvement include ensuring parity data is completed, and ensuring previous abdominal surgical scars are identified correctly.

P-31

Chemotherapy versus surgery for initial treatment in advanced ovarian epithelial cancer

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Aims

A Cochrane systematic review and meta-analysis to assess survival outcomes, peri-operative morbidity and quality of life differences between neoadjuvant chemotherapy (NACT) followed by interval debulking surgery (IDS) and primary debulking surgery (PDS) followed by adjuvant chemotherapy as initial treatment options for advance epithelial ovarian cancer

Background

A previous Cochrane review comparing NACT with PDS for advanced ovarian cancer, based on the results of 1 study, showed little or no difference in survival between treatment options. Further data are now available and we sought to update the review and perform a meta-analysis.

Methods

Systemic review of the literature up to January 2019 and a meta-analysis of the available data using Cochrane methodology.

Results

From 1950 titles, we identified an additional 4 RCTs, including 1,773 women, and extracted data where available for meta-analysis. Three studies, assessing 1,521 participants, found little or no difference in overall survival (OS) between NACT and PDS for initial treatment in advanced ovarian cancer (hazard ratio (HR) = 1.06, 95% confidence interval (CI) 0.94 to 1.19). Four studies, assessing 1,691 participants, found little or no difference in progression-free survival between NACT and PDS (HR = 1.02, 95% CI 0.92 to 1.13). Meta-analysis of five studies, assessing 1,571 participants found women who had NACT had lower relative risk (RR) of peri/post operative mortality than with PDS (RR 0.18; 95% CI 0.06 to 0.54). Further data from 3 ongoing studies are awaited.

Conclusions

There was little or no difference in overall and progression free survival between NACT and PDS for women with advanced ovarian cancer. Women who were treated with NACT had a lower risk of peri-operative mortality. These survival outcomes provided moderate certainty evidence whereas the adverse event and QoL outcomes only gave low certainty evidence and were incompletely reported.

P-32

Survival outcomes following open and laparoscopic surgery for early stage cervical cancers in the South West of England

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Aims

To review survival outcomes of women with early stage cervical cancer treated surgically in four Cancer Centres from the South West Academic Gynae-Oncology Group for Education and Research (SWAGGER).

Background

The LACC study has called into question the oncological safety of laparoscopic radical hysterectomy. We reviewed local outcomes in comparison to the LACC cohort.

Methods

All women who underwent radical hysterectomy for early stage cervical cancer (up to 1b2) in the 4 centres over the past 10 years. Hospital record systems were interrogated, and paper notes reviewed. Data extracted according to LACC dataset.

Results

A total of 182 women (30 Open, 152 Lap). HR for OS 0.2 (95% CI 0.03 to 1.19) and PFS 0.41 (95% CI 0.11 to 1.51). In both groups in the SWAGGER cohort there were higher rates of negative nodes and subsequently lower rates of adjuvant CRT, there were also lower rates of intra-operative complications. Median follow up 77 months (Open) 27.8 months (Lap). There were 12 recurrences (3 open – 1 vault, 2 pelvic, 9 Lap– 6 vault, 1 pelvic, 1 distant, 1 unknown). 3 women died from disease (1 Open, 2 Lap) all other recurrences were salvaged.

Conclusions

Hazard ratios for PFS and OS showed little or no difference between groups. However, due to lack of open cases these data lack power to detect a small but significant difference.

Whilst retrospective cohort data may be at higher risk of bias, there is value in reviewing UK outcomes. This data could be added to the ESGO study in order to address some of the methodological issues faced in retrospective cohort data analysis.

We have a responsibility to inform women of these results, and they aid in shared decision-making with women about their treatment, but as with the LACC study we cannot explain why these differences may occur.

P-33

Diagnosis and Management of Small Cell Neuroendocrine Tumour of the Cervix in Pregnancy: A case report

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Aims

To understand management options for a woman diagnosed with a rare type of cervical cancer in mid-pregnancy

Background

A woman in her mid-twenties presented to her community midwife at 17 weeks' gestation in her second on-going pregnancy with a history of post-coital bleeding. She had a normal cervical screening result the previous year. Despite repeated contacts with her midwife and GP she was not examined per vaginum. She attended the emergency department at 18 weeks' gestation and was examined and referred to colposcopy.

Methods

A review of case notes and literature review.

Results

A mass was found on the posterior lip of the cervix, with differential diagnoses of a cervical fibroid or possibly a malignancy, without signs of high grade CIN/CGIN. A pelvic MRI was performed, and colposcopy repeated within 3 weeks. The mass had increased in size, so cervical biopsies and clinical staging were performed in theatre. Biopsies revealed a poorly differentiated malignant tumour possibly of neuroendocrine origin, confirmed on immunohistochemistry.

The plan was for carboplatin and paclitaxel chemotherapy until late third trimester. After the first cycle she had an allergic reaction to paclitaxel. Two further cycles of single agent carboplatin were completed with initial good response, before disease progression at 31 weeks. A Caesarean Wertheim's hysterectomy /PLND was performed after steroids for fetal lung maturation. She had cisplatin and etoposide for 2 cycles, radical chemoradiotherapy and 2 further cycles of cisplatin and etoposide. She is now 5 years post-surgical treatment and remains disease free, although has significant lymphoedema.

Conclusions

Vaginal bleeding in pregnancy is common, but women should be examined to ensure that any cervical pathology can be detected. A normal cervical screening history does not exclude cervical abnormalities, especially those of rarer subtypes. Our case is only the 17th reported case of NET of the cervix in pregnancy.

P-34

Hypoalbuminaemia in Advanced Ovarian Cancer (AOC): Primary or Interval Surgery?

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Aims

To investigate the impact of serum albumin (both at diagnosis and pre-operatively) on survival in patients undergoing cytoreductive surgery for AOC and whether any change in albumin achieved following Neoadjuvant chemotherapy (NACT) affects overall survival (OS).

Background

Pre-operative albumin is known to be a marker of survival in AOC. However, little is known of the outcomes of hypoalbuminaemic patients after neo-adjuvant chemotherapy (NACT).

Methods

Outcomes of 441 patients who underwent cytoreduction for AOC between 16/08/2007-03/02/2014) at the Pan-Birmingham Gynaecological Cancer Centre (PBGCC) were reviewed. Albumin was recorded both at diagnosis and immediately pre-operatively. If hypoalbuminaemic at diagnosis, they were further analysed according to whether they received primary debulking (PDS) or interval debulking (IDS) with normalisation of albumin or IDS without normalisation of albumin.

Results

308 patients had a diagnosis albumin level available for analysis and 400 patients had an immediate pre-operative albumin available for analysis. For patients with a diagnosis albumin 35g/L and ≥36g/L median OS was 31.5 (95% CI 23.5 – 39.5) and 50.4 (95% CI 38.9 – 61.9) months respectively (P=0.003). On multivariate analysis (MVA) adjusting for cytoreductive outcome, stage and grade, diagnosis albumin remained statistically significant (p = 0.04, Hazard ratio 1.38, 95% CI 1.01 – 1.89). Preoperative albumin showed a significant difference between low and normal albumin levels (p=0.003) which was not confirmed on MVA.

53% of patients hypoalbuminaemic at diagnosis achieved complete cytoreduction, of which Median OS in those undergoing PDS was 19.7 months (95% CI 11.5 – 27.9) months, those undergoing IDS but remained hypoalbuminaemic 27.9 Months (n = 1) and those undergoing IDS with normalisation of Albumin 42.9 months (95% CI 31.5 – 54.3) (p>0.05).

Conclusions

Hypoalbuminaemia at diagnosis is a poor prognostic factor in AOC. Normalisation of serum albumin after NACT in our exploratory analysis suggests a survival benefit which needs further investigation.

P-35

Cytoreductive Surgery for Tubo-Ovarian Carcinoma – A Study of MDT Decision-Making for Primary vs NACT-Interval Surgery

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Aim

The aim of this study was to analyse the multidisciplinary team (MDT) decision-making process in assigning patients with advanced tubo-ovarian carcinoma (TOC) to primary debulking/cytoreductive surgery (PDS) or neoadjuvant chemotherapy (NACT) at this Irish tertiary gynaecological oncology centre.

Background

PDS is considered the optimal approach in the management of TOC. NACT with interval cytoreductive surgery (IDS) is not considered inferior to PDS.

Methods

This is an observational retrospective study on consecutive patients with invasive serous and non-serous TOC, presenting in 2018. Borderline, non-epithelial and low grade tumours were excluded. Patient demographics, staging, histology and pre-treatment tumour markers were reviewed. Treatment modalities (PDS, NACT-IDS, chemotherapy alone) were documented.

Results

Of eighty-eight patients assessed by MDT, forty-one patients had radiological stage III (61%,n=25) or Stage IV disease (39%,n=16).

Fifteen patients underwent PDS (36.6%). Fourteen were radiological stage III (93.3%) and one patient was Stage IV (6.7%). Median age was 54.3 years and median Ca125 was 1448. Complete cytoreduction was achieved in twelve patients (86%).

Twenty-four patients underwent primary chemotherapy. Eleven patients were radiological stage III (45.9%) and thirteen were Stage IV (54.1%). Median age was 64 years and median Ca125 was 1902. Thirteen patients did not progress to IDS due to suboptimal chemotherapy response (n=5) and poor surgical candidacy due to comorbidities (n=4).

Conclusions

The percentage of patients assigned to PDS by MDT was low. Complete cytoreduction was achieved in the majority of the PDS group, suggesting the MDT decision was correct. Patients selected for chemotherapy were more likely to have stage IV disease, higher age and Ca125. Half of patients receiving primary chemotherapy never progressed to surgery. Their poor baseline performance status may also be as important as chemo-resistance in that outcome. Robust comparisons of outcomes for PDS vs NACT-IDS need to pay close attention to patient stratification.

P-36

Has the Robot improved outcomes for women with endometrial cancer? A prospective quality improvement project at a London gynae-oncology tertiary centre

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Aims

To assess the effect of introducing robotic surgery (RAH) on the length of stay(LOS) and laparotomy rates in women undergoing surgery for endometrial cancer.

Background

Minimally invasive surgery (MIS) is the preferred route for women with endometrial cancer. Although robotic surgery is not yet NHS standard, it was introduced at Royal London Hospital in November 2017.

Methods

Electronic patient records were reviewed for all women undergoing surgery for endometrial cancer in 2016 and 2018 and analysed using Microsoft Excel and IBM SPSS.

Results

A total of 95 and 103 women (same mean age of 66) had surgery in 2016 and 2018 respectively.

In 2016, after examination under anaesthetic(EUA), 53(56%) proceeded to TAH and 42(44%) to TLH. 2(0.02%) were converted from TLH to TAH. The median BMI, estimated blood loss (EBL) and LOS for the TAH group were 32kg/m^2, 350ml and 6 days respectively whereas for TLH were 30 kg/m^2, 100ml and 2 days.

In 2018, 37(35%) had TAH and 67(65%) MIS hysterectomy. In the MIS group, 21(31%) had TLH and 45(69%) RAH. 7(11%) and 1(1%) were converted from RAH to TAH and vaginal hysterectomy respectively. Of these 8, 7 were draped but not docked. The median BMI, EBL and LOS for the TAH group were 28.6 kg/m^2, 400ml and 5 days, for TLH were 28kg/m^2, 100ml and 1 day and for RAH were 39.3kg/m^2, 100ml and 2 days respectively.

The overall LOS has fallen from 5 days in 2016 to 3 in 2018($p<0.01$). The overall rate of TAH has fallen from 53/95 to 36/103($p<0.01$).

Reasons for conversion included anaesthetic, adhesions, intraoperative complications and uterine perforation.

Conclusion

RAH has enabled complex operating in high-risk cases while significantly reducing LOS and laparotomy rates.

P-37

Multidisciplinary approach to management of fistulae in Gynaecological Oncology – 5 year experience

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Aims

This is a retrospective observational study of our experience with diagnosis and multispecialty management of complex fistula in gynaecological oncology.

Background

Fistulas are uncommon complications in gynaecological malignancies; commonest occurring fistulas are vesico-vaginal and enterocutaneous fistula. They may develop after primary malignancy, surgery, recurrence or radiation therapy. We report an observational cohort study.

Methods

Prospective identification and data collection on all cases with fistula related to gynaecological malignancy was undertaken between 2014 and 2018. Patient demographics, co-morbidities, cancer type & stage, investigations, management and outcomes were collated and analysed using descriptive statistics.

Results

A total of 17 patients were identified (1% total n=1485), out of which 12 developed a fistula post operatively, 4 after chemo radiotherapy, and 1 case post recurrence. Among the 17 patients, 5 patients developed Enterocutaneous fistula, 3 uretro-vaginal fistula, 3 vesico-vaginal fistula, 3 rectovaginal fistula and 3 colovaginal fistula. CT scan was the main diagnostic tool in all these case. There were no correlations between developing a fistula and age, BMI, previous abdominal surgery, type or stage of cancer and type of procedure.

All fistulas were managed with multidisciplinary approach from the outset, including medical & clinical oncology, nutrition, interventional radiology, colorectal & urological surgeons, tissue viability, and extensive clinical nurse specialist support. Vesico-vaginal fistulas and post-radiotherapy rectovaginal and colovaginal fistulas were managed surgically. All others were managed conservatively with full resolution.

Conclusions

Fistulas in gynaecological oncology are an uncommon complication. CT scan is the preferred imaging modality for diagnosis. Early multi-disciplinary approach is pivotal to successful management.

P-38
The Management of Vaginal Intraepithelial Neoplasia

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Aims
To look at how we manage Vaginal intraepithelial neoplasia (VaIN) in our cancer centre.

Background
VaIN, although rare, is a premalignant condition linked to infection with high risk Human Papillomavirus (hr-HPV). The true incidence and natural history of VaIN is not well known. It is believed that 3-4% of women with VaIN, left untreated, will develop vaginal cancer.

There are currently no standardised national guidelines on the management of VaIN. Generally, low grade VaIN (VaIN 1) is not treated while high grade VaIN (VaIN 2/3) is actively managed. Treatment could be excision, ablation, radiotherapy or topical treatments.

Methods
Cases of VaIN seen in the colposcopy clinic in South Tees Hospital were identified from the software used (Infoflex) covering the period, 2008-2017. Data was collected on referral indication, site and grade of VaIN, concurrent cervical pathology, the treatment given and follow up plan.

Results
35 women were diagnosed with VaIN. Cytological abnormality was the main reason for attendance (89%; 31/35) and 25 were (71%) asymptomatic. Cervical intraepithelial neoplasia (CIN) was found concurrently in 8 (23%) and 2 (6%) had cervix cancer.

Treatment varied with 86% (30/35) kept under surveillance, two of whom needed treatment at a subsequent visit. A further 9% (3/35) were treated in the colposcopy clinic (excision) and the remaining two women were treated during surgery for concomitant cervix cancer.

The VaIN had regressed naturally at the follow up appointment for 46% (16/35) who were therefore discharged. 6 women (17%) remain under surveillance of VaIN and 1 (3%) lady did develop vaginal cancer. One transferred care to another hospital and the remaining failed to return.

Conclusions
We found a varied practice in managing VaIN within one centre and suspect this is the case nationally. We recommend developing best evidence guideline to manage.

P-39

Post-operative recovery following laparotomy for suspected gynaecological cancer: an observational study comparing two methods of analgesia - epidural and local anaesthetic infusion catheter

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Aims

1. To compare pain scores and analgesia requirements post operatively
- To compare post-operative recovery specifically mobilisation, intravenous fluid requirements and time diet first tolerated
- To compare duration of hospital admission

Background

The enhanced recovery (ER) model was endorsed by the Royal College of Obstetricians and Gynaecologists in 2013 and is proven to reduce hospital stays and accelerate recovery. Post-operative aims of the ER model include early feeding, reduced intravenous fluids and early mobilisation. A local anaesthetic infusion catheter (LAIC) delivers a continuous local anaesthetic infusion into the surgical incision site and has been shown to reduce opiate requirements in the first 24 hours following abdominal hysterectomy. This study compares the post-operative targets of the ER programme between the two analgesia methods in patients following a laparotomy for suspected gynaecological cancer.

Methods

Retrospective observational study of post-operative recovery in patients with suspected gynaecological cancer operated on via a midline incision.

Results

Sixty-four laparotomies were identified during the 20-week study period; the median patient age was 65 years (range: 52-73 years). 38 patients had an epidural and 26 patients had a LAIC inserted for post-operative analgesia.

On day one there was no difference between the reported pain scores between the groups but patients with a LAIC required significantly more ‘as required’ analgesia doses. On day two the LAIC group reported higher pain scores but this was not a clinically significant difference.

Patients with a LAIC were significantly more likely to mobilise within and outside the patient bay by day 2 and required less intravenous fluid. There was no difference in time to diet first tolerated or admission duration.

Conclusions

Patients with a LAIC for postoperative analgesia were more likely to achieve the ER goals of early mobilisation and reduced intravenous fluids. There was no difference in admission duration or time to diet first tolerated.

P-40

Comparison of survival between abdominal versus laparoscopic radical hysterectomy in cervical cancer: 10-year experience in a single UK cancer centre

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Aim

The aim of the study was to compare survival and surgical outcomes of abdominal (TARH) and laparoscopic radical hysterectomy (TLRH) for women with early stage cervical cancer.

Introduction

Minimal access approaches to radical hysterectomy for cervical cancer have become increasingly popular and has been adopted broadly across Europe and the Americas. Laparoscopic approach for cervical cancer trial (LACC) closed early due to reduced progression free and overall survival in the minimal access arm. These findings are supported by subsequent epidemiological data.

Methods

We performed a retrospective cohort study of women undergoing radical hysterectomy for stage 1A2 - 2A cervical cancer between January 2008 to December 2018 at the Northern Gynaecological Oncology Centre. Overall and progression free survival were calculated in the groups and compared with clinical variables using Cox proportional hazards regression and log rank test.

Results

A total of 239 patients were included in our study. 69 patients underwent TARH and 170 had TLRH. All TARH were performed between 2008-2010.oth groups were comparable in baseline characteristics. 1A2=1%, 1B1= 81%, 1B2= 15%, 2A= 3%. The median follow-up time in our cohort was 52 months. Mortality and recurrence rates were similar in both TARH and TLRH groups, 13% vs 5% (hazard ratio 1.01; 95% confidence interval [CI], 0.36 to 2.82; P=0.98 by the log-rank test) and 15.9% and 7% (Hazard Ratio 1.46,95% CI:0.59-3.59, p=0.41) respectively. Survival was poorer in patients with larger tumours and those with lymphvascular space invasion (p=0.007). Blood loss, transfusion requirements and post-operative complications were significantly lower in TLRH arm (p=0.03).

Conclusions

In contrast to recent trial findings, progression free and overall survival appears similar in both open and laparoscopy groups in our institution. There was a trend towards a higher recurrence rate in the open group, however this did not reach statistical significance.

P-41

A retrospective review of cancer referrals for suspected endometrial malignancy

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Aims

To review the referral pathway for postmenopausal bleeding (PMB)

Background

PMB makes the highest proportion of all Gynaecological cancer referrals. However, only approximately 10% of these women are diagnosed with a malignant pathology. In this study we aim to review the course of diagnostic pathway to identify areas of improvement. As majority of patients can be reassured by the initial Ultrasound scan (USS) alone, we aimed to assess the feasibility of introducing cancer referral based on abnormal USS for this group of women. This would limit referrals to those who require hysteroscopy and biopsy for further assessment. As a consequence this would enhance our capacity to meet the cancer targets.

Methods

This was a retrospective review of cases referred with PMB in 2017. We identified patients through the data provided by the cancer services. We extracted the information from the electronic record of letters and ICE system for results of investigations. We conducted a detailed review of 200 patients.

Results

In 2017 the unit received 1473 Gynaecological cancer referrals, of which 702 were for PMB alone. Out of the 200 patients, 92 patients had a normal scan and did not require either an endometrial biopsy or a hysteroscopy. We will present further details of the remaining 108 and the outcome for all in our final presentation.

Conclusion

Triaging patients by their scan findings would ensure that only those requiring hysteroscopy would be referred to the hospital. This would reduce the number of unnecessary visits to the hospital and improve cancer target performance.

P-42

Is ultrasound KUB a useful investigation following Radical Hysterectomy?

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Aims

1. To determine whether all patients undergo KUB imaging following radical hysterectomy (as per local guideline)
- To determine incidence of ureteric injury following radical hysterectomy for oncology patients

Background

Incidence of iatrogenic ureteric injury during gynaecological surgery occurs in approximately 0.5-1.5% of cases with the majority occurring in benign cases. More than 70% are diagnosed during the post-operative period. However radical hysterectomy for malignancy significantly increases the risk of ureteric injuries (between 5 – 30%) and complications related to it. In view of this, the local guidelines at University Hospital of Wales recommend removing the urinary catheter at day 7 post-operatively, after an ultrasound of the kidneys, ureters and bladder (US KUB) to ensure there are no occult injuries.

Methods

Retrospective audit of online patient records and clinical notes for all patients undergoing radical hysterectomy between January 2017 and October 2018 at University Hospital of Wales. Data collection and analysis performed using Microsoft Excel Version 16.

Results

A total of 37 radical hysterectomies were performed, 86% (n=32) for cervical cancer. 92% (n=34) patients underwent US KUB (65% of which occurred on day 7[n=22]; 24% [n=8] by day 10 with delay due to Public Holidays in 3 cases; and 12% [n=4] prior to day 7, 2 of which were to exclude suspected post-operative complications). Of all US KUB performed 91% (n=31) were normal, and 6% (n=2) showed mild hydronephrosis only and one patient required a CT urogram for clarification. No urinary tract injuries were noted.

Conclusions

The majority of patients had imaging at the appropriate time post-operatively. There were no urinary tract injuries identified with the US KUB however where suspicion was raised further investigation was carried out to exclude injuries. Hence US KUB is a simple yet useful tool, without risk of radiation exposure, to detect injuries in the immediate post-operative period and deal with them.

P-43

Evaluating the ACS-NSQIP surgical risk calculator in predicting 30 day complications and Length of stay in Gynaecology Oncology patients

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Aims

The aim of the study was to assess the ability of the ACS NSQIP surgical risk calculator to predict complications occurring 30 days post operatively and length of hospital admission in patients undergoing Gynaecology oncology operations.

Background

An aging population with increasing comorbidities means that Gynaecology oncology surgeons are operating on more complex patients. It is vital to understand individual risks for patients for shared decision making and informed consent. The ACS NSQIP tool is based on multi-centre data to predict the risk of a number of operations.

Methods

We randomly selected 75 patients who underwent gynaecology oncology surgery cancer in a tertiary referral centre from 2016 to 2018. We input the pre-operative risk factors from each patient in to the ACS NSQIP risk calculator, generating predicted risk profiles and predicted length of stay for each patient. We compared the predicted and observed outcomes by measuring the Brier score and ROC area under the curve. We assessed the capacity of the risk calculator to correctly predict length of stay by classifying the prediction as underestimating, correctly estimating or overestimating.

Results

The overall observed rate of any complication was 21% compared to the mean predicted rate of any complication by the ACS NSQIP risk calculator of 4.86%. The ROC area under the curve was low 0.534 and brier score was 0.18 for any complication. Length of stay was predicted correctly for 42 %, underestimated in 47% and overestimated in 11%.

Conclusions

The ACS NSQIP tool poorly predicted 30-day post-operative complications for patients undergoing gynaecology oncology surgery for our cohort of patients, with a much higher rate of complication than the tool predicts. The length of stay was underestimated. This indicates the need for a more specific tool for predicting complications and length of stay in Gynaecology oncology patients.

P-44

Hysterectomy as an outcome for patients attending colposcopy clinic – a 10-year retrospective audit

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Aims

To assess the indication for hysterectomy in patients attending colposcopy clinic in a regional cancer centre.

Background

The NHS Cervical Screening Programme guideline reserves hysterectomy for patients who benefit from definitive treatment for persistent pre-invasive or invasive disease.

Methods

A retrospective audit using a colposcopy database to identify patients from 2009 to 2018 referred for hysterectomy.

Results

Of 13,383 referrals to colposcopy clinic, 34 patients had a hysterectomy (0.25%) after an average of two loop excisions (LLETZ). Of 2,612 patients with severe dyskaryosis, 17 patients (0.65%) underwent hysterectomy. Of 68 patients with possible invasion on cytology, 5 patients (7.4%) underwent hysterectomy. Seven patients with glandular disease on cytology, one patient with repeat inadequate smears and one patient with cervical stenosis had a hysterectomy.

27 cases (79.4%) conformed to the audit standard of a preoperative biopsy prior to hysterectomy. The most common indications were cancer (11 cases), persistent abnormal smears (seven cases), glandular disease (seven cases) and cervical stenosis (two cases).

Seven cases did not conform to the audit standard. Five of these cases were referred with persistent abnormal smears following an average of one LLETZ. Prior to hysterectomy they did not undergo an additional biopsy to rule out invasion. Four cases had pre-operative imaging (two ultrasound, two MRI). There were no cases of occult disease in cases deviating from the audit standard.

Conclusions

Omitting a pre-operative biopsy in patients with persistent abnormal cervical cytology did not result in any cases of undiagnosed cancer requiring radical treatment. The use of preoperative MRI imaging in lieu of repeating an excisional biopsy to exclude occult invasion prior to hysterectomy may have a role in select patient groups.

P-45

The use of peri-operative Vena Cava Filters in women with venous thromboembolism undergoing surgery for gynaecological malignancy. A 5-year single centre experience.

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Aims

To evaluate filter complications and VTE recurrence in women undergoing vena cava filter (VCF) insertion prior to surgery for suspected or confirmed gynaecological malignancy.

Background

Venous thromboembolism (VTE) is common in cancer and is one of the leading causes of death in these patients. Tumour cells cause hypercoagulability, vessel wall injury and stasis due to mass compression. Ovarian cancer is particularly thrombogenic.

Surgery is an independent risk factor for VTE and should ideally be delayed for at least 4 weeks after diagnosis. In cancer this is not always practical and high risk of embolism and must be balanced against increased bleeding risk associated with anticoagulation. The British Committee for Standards in Haematology advise consideration of retrievable VCF in any pre-operative patient with recent VTE in whom anticoagulation must be interrupted.

Methods

Retrospective audit of 26 patients who underwent VCF insertion prior to gynaecological cancer surgery in a single tertiary cancer centre from 2013-2018. Notes, radiology/pathology systems and cancer database used for data collection.

Results

12 women (46.2%) had ovarian cancer, 3 (11.5%) primary peritoneal, 4 (15.4%) endometrial, 2 (7.7%) tubal, 1 (3.85%) cervical, 1 (3.85%) synchronous ovarian/endometrial and 3 (11.5%) had benign masses. 50% women presented with a pelvic mass and 80% had raised CRP at the time of VTE diagnosis. 25 (96%) VCFs were placed infra-renally and insertion via right internal jugular vein was most common (25; 96%). There were no VCF insertion complications, but two were difficult to remove. Four (15.4%) were never removed as patients were deemed unfit or receiving palliative care. One VTE recurrence occurred 8 months following removal at time of disease recurrence.

Conclusions

Peri-operative VCF insertion is a safe procedure which can be effectively utilised in gynaecological cancer surgery to reduce the risk of potentially fatal pulmonary embolism in this high-risk group.

P-46

Patterns of Recurrence Following Pelvic Exenteration: Defining High Risk Target Volumes for Post-operative Re-irradiation

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Aims: To identify anatomical patterns of recurrence following pelvic exenteration.

Background

Pelvic exenteration (PE) can be curative in selected patients with recurrent or persistent gynaecological malignancy, but there is a high risk of recurrence. There are few data assessing potential post-operative interventions. Re-irradiation with stereotactic radiotherapy is a new option to impact on local control.

Methods

All patients who underwent PE for recurrent gynaecological malignancy between 1994 and 2017 at the Royal Marsden Hospital were evaluated using electronic patient records. DICOM data (available after 2006) was transferred to the radiotherapy planning system to generate three-dimensional tumour volumes. Cumulative anatomical mapping was undertaken on a reference dataset. Pre-exenteration and relapsed volumes were outlined to assess relationship to resection margins.

Results

104 patients were evaluated with median age 56 years (24–83); 84% had prior irradiation. With median follow up 102.9 months (2.0–276.5), 63 patients (60.6%) experienced relapse, with 42 (67%) within the pelvis only. Overall survival was 52.2% and 32.1% at 2 years and 5 years respectively. Margins were clear in 36.5%, close (≤ 5 mm) 36.5% and involved in 25% patients. 5-year loco-regional control was 67% clear margins and 35% close/positive margins (P=0.04). From 2006, there were 32 recurrences in 58 patients; 26 (81%) had loco-regional recurrence (LRR). Mapping showed 42% LRR occurred centrally, 27% pelvic sidewall, 23% anterior, 8% posterior, 19% inguinal. After anterior PE, LRR is predominantly central (50%), posterior PE at sidewall (50%) and total PE anterior (40%). With 5mm expansion of pre-operative tumour volumes, 65% cases overlapped with the recurrence.

Conclusions

Radical PE can provide long-term survival in patients with recurrent gynaecological malignancies. Loco-regional relapse is the dominant pattern of recurrence, with regions at highest risk dependent on surgical procedure and margin status. This suggests additional targeted treatment such as stereotactic radiotherapy may improve outcomes.

P-47

Investigation and Diagnosis of Postmenopausal Bleeding - A Service Evaluation

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Aims

1. To investigate the main causes of Postmenopausal Bleeding (PMB) and the Endometrial cancer rates (**with 5mm** endometrial thickness cut-off for further investigation) at Ysbyty Gwynedd, Bangor.
1. To evaluate the Postmenopausal Bleeding (PMB) service at Ysbyty Gwynedd and ascertain the success rates of the further investigation.

Method

This is a retrospective cohort study which included all patients referred to the PMB service at Ysbyty Gwynedd, Bangor between the 1st June - 1st December 2018. The clinical case notes of these patients were obtained and information was collated from referral letters, gynaecology history pro-forma, ultrasound scan reports and histology results of endometrial biopsies.

Results

Current BCUHB guidelines recommend ET cut-off score of ≥5mm.

244 patients were included in this study. Endometrial thickness (ET) of all women ranged between 0.9 - and 26.0mm. A Pipelle biopsy was indicated in 99 women but an adequate sample for histological diagnosis was obtained from 72 (72.7%) women.

Only 16% of all women received a diagnosis/ cause for their PMB. 8 (3.3%) Endometrial cancers were found and all cancers were either FIGO stage 1 or 2 at time of diagnosis. 2 Cervical cancers were found in this cohort. Benign endometrial polyps were the most common cause of PMB.

Conclusion

74% of women who were referred to the PMB service did not receive a diagnosis. The local rate of Endometrial cancer is 3.3%, which is much lower than the nationally quoted 9% rate. Our current ET threshold of ≥5mm detects Endometrial Cancers in its early, localised stages. However, studies have shown cases of Endometrial cancer in women who do not have a 'thickened' endometrium. If the ET threshold for further investigation is changed to ≥4mm then we can expect to further investigate 15% more women.

P-48

Management of Indeterminate pelvic masses and borderline ovarian tumours: a survey of current practice of gynaecological oncologists in the United Kingdom.

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Aims

We aimed to assess current practice in gynaecological oncology centres around the United Kingdom.

Background

Borderline ovarian tumours (BOT) represent approximately 15% of ovarian tumours. Currently there is no clear guidance on management or follow up leading to variation in practice.

Methods

Membership of the British Gynaecological Cancer Society (BGCS) was surveyed via an online survey platform from 01/11/17-31/06/2018. A single reminder was sent during the collection period. Information gathered included use of frozen section for indeterminate mass at laparotomy, surgery offered, whether completion surgery was offered for those who had initial fertility sparing surgery, whether an agreed protocol for follow up of BOT was in place, length of follow up and whether adjuvant treatment is offered. Data analysis was with Microsoft Excel.

Results

Responses were received from 19 of the 33 (58%) UK gynaecological oncology centres. 13 (72%) centres reported frozen section use. 18 (95%) centres reported offering total abdominal hysterectomy and bilateral salpingo-oophorectomy for women who were post-menopausal or reported their family was complete. All 19 centres reported offering fertility sparing surgery in those where family not completed. 16 (89%) centres reported offering completion surgery for those who had initial fertility sparing surgery. 16 (89%) centres reported having an agreed protocol for follow up of BOT. Only 5 (28%) centres reported offering adjuvant treatment for chemotherapy depending on presence of invasive implants or advanced disease with 12 (67%) not offering any additional treatment.

Conclusions

Based on responses there is variation in the management of indeterminate pelvic masses and borderline ovarian tumours between centres. These findings suggest that there is a need to develop a UK wide management strategy to provide uniformity of care.

P-49

Modified oblique versus classical 'lazy S' incision for inguino-femoral lymph node dissection; complications, node count and hospital stay

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Aims

To determine differences in complication rates and node count following classical ‘Lazy S’ and modified oblique skin incision when performing inguino-femoral node dissection.

Background

Inguino-femoral lymph node dissection plays a crucial role in the management of vulval cancer but is associated with high complication rates including infection, lymphocysts and wound dehiscence. Several skin incision techniques exist and practice amongst gynaecology oncologists is variable. Little evidence exists to guide surgeons regarding optimal surgical approach.

Methods

A retrospective review of 4 years of data from UHW, Cardiff. Data collected included age, BMI, incision, length of stay, complications, cancer stage, node count and recurrence of disease. Data were analysed using SPSS software; statistical significance defined as p=< 0.05.

Results

Thirty-five cases of classical 'lazy S' and 14 cases of modified oblique. More serious, grade 3/4 complications were significantly more common following classical 'Lazy S' versus modified oblique (20/35, 57.1% vs. 2/14, 14.3%). Mean number of nodes harvested was significantly higher in the classical 'Lazy S' group compared to the modified oblique (11.1 vs. 7 nodes). Mean hospital stay was significantly higher in patients undergoing classical 'Lazy S' vs. Modified oblique (10.7 vs. 4.5 days). One case of groin node recurrence occurred and this patient was in the classical 'lazy S' arm.

Conclusions

This study demonstrates significantly lower rates of overall and serious complications following modified oblique skin incision compared to classical 'Lazy S'. However, this would appear to be at the compromise of a reduced node count. This study was not designed to determine the clinical significance of node count and recurrence but this is also a subject upon which the literature is scarce. More research is required to determine optimal surgical incision in this challenging procedure.

P-50

Use of Pelvic lymphadenectomy in the management of high grade & Type 2 endometrial cancer: a survey of current practice of gynaecological oncology centres in the United Kingdom

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Aims

Our aim was to assess the current practice of gynaecological oncology centres in the United Kingdom (UKGOC).

Background

Previous trials have not shown any therapeutic benefit of pelvic lymphadenectomy (PL) in high grade (HG) or type 2 (T2) endometrial cancer but doubts have been raised regarding the findings of these trials due to their methodology. The recent ESGO guidelines (2016) have only recommended lymphadenectomy for purpose of comprehensive staging and determining prognosis.

Methods

We surveyed the membership of the British Gynaecological Cancer Society (BGCS) via an online survey platform from 01/11/2017-30/06/2018. A single reminder was sent during the collection period. Information was gathered regarding surgery offered, whether PL is offered routinely and what adjuvant treatment is offered. Data analysis was with Microsoft Excel.

Results

Responses were received from 17 of the 33 (52%) UKGOC. All centres reported offering hysterectomy and bilateral salpingo-oophorectomy as the main treatment. Omental biopsy or omentectomy was reported as offered in 4 (24%) centres for HG and 100% of centres for T2 disease. 12 (71%) centres reported >75% of cases completed through a minimally invasive procedure, the remaining 5 (29%) centres reported 50-75% of cases completed minimally invasively. 15 (88%) centres reported offering PL routinely, 10 provided complete information regarding the adjuvant treatment offered, 9 reported altering the adjuvant therapy offered dependent on whether PL had been undertaken.

Conclusions

Most of the responding centres performed surgical assessment of pelvic lymph nodes; the majority of these reported using it to guide what adjuvant therapy is offered. Further prospective trials are required to assess the value of PL in management of high grade and Type 2 endometrial cancers.

P-51

Laparoscopic radical hysterectomy versus open radical hysterectomy in early stage cervical cancer; long term recurrence rates in the South East Wales Gynaecology Oncology Centre.

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[1]University Hospital of Wales

Aims

To determine differences in recurrence rates following laparoscopic radical hysterectomy and open radical hysterectomy in a retrospective cohort of women with early stage cervical cancer.

Background

Radical hysterectomy for cervical cancer may be performed using minimally invasive techniques or open, abdominal techniques. A growing body of evidence provides conflicting evidence regarding survival outcomes between these two surgical approaches,

Methodology

A retrospective review of all cases of radical hysterectomy between January 2008 and December 2018. Data collected included age, BMI, performance status, surgical approach, stage, tumour size, complications, recurrence rates and disease free survival. Data were analysed using SPSS software and statistical significance was set at p=<0.05.

Results

Two-hundred and twenty-nine cases of radical hysterectomy were identified; one-hundred and forty-one abdominal cases and 88 laparoscopic cases. Patient demographics and cancer stage were comparable between the two groups. Mean duration of follow up was 6.4 months. Nine out of 141 (6.4%) of abdominal cases developed a recurrence and 5/88 (5.7%) patients having a laparoscopic procedure developed a recurrence.

Conclusion

This retrospective review demonstrates no significant difference in recurrence rates between patients having undergone abdominal radical hysterectomy compared to laparoscopic hysterectomy in the South East Wales Gynaecology Oncology Centre.

P-52

Takotsubo cardiomyopathy associated with ultraradical cytoreduction surgery in advanced stage ovarian cancer: a case report

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[1]Barts Health Trust

Aims

Background: Takotsubo cardiomyopathy (TC) mimics acute coronary syndrome and is accompanied by reversible left ventricular (LV) apical ballooning in the absence of angiographically significant coronary artery stenosis. In Japanese, “tako-tsubo” means “fishing pot for trapping octopus,” which resembles the shape of LV. TC, which is transient and typically precipitated by acute emotional stress. We present a case of TC associated with ultraradical cytoreduction surgery for ovarian cancer.

Methods: CASE PRESENTATION

Results: A 67-year-old female patient with Stage 4 ovarian cancer underwent interval cytoreduction surgery after 3 cycles of carboplatin and paclitaxel. Her WHO performance status was 0 and risk factor included hypercholesterolaemia, but no previous history of cardiac disease. Estimated intraoperative blood loss was 2000 ml and length of surgery 330 min. R0 resection was achieved. Intraoperatively at 280 min, ST elevation, hypotension and subsequent ventricular tachycardia was noted, which reverted with cardioversion. Electrocardiogram showed inferolateral ST elevation. Immediate perioperative management included fluid resuscitation and noradrenaline infusion. Her cardiac index was 4.1, therefore hypo perfusion was ruled out. Intra-operative STEMI was suspected. Percutaneous Coronary Intervention (PCI) was performed which showed normal coronary artery flow. Transthoracic ECHO confirmed normal LV cavity size and wall thickness. The mid - apical regions appeared severely hypokinetic/akinetic. Systolic function (SF) appeared severely impaired with a visually estimated EF in the region of 30-35%. Features of severe left ventricular systolic dysfunction (LVSD) secondary to either chemotherapy or cardiogenic shock or post-op vasoplegia were likely causative factors. Ramipril and bisoprolol were commenced. Cardiac MRI revealed small LV cavity size with normal SF and nondilated RV with normal SF. Improved LV function was noted. She was discharged home on day 10 and has made uneventful recovery without any impeding cardiac symptoms.

Conclusions: Takotsubo cardiomyopathy should be considered as a differential diagnosis in perioperative cardiac arrest.

P-53
Endometrial carcinoma presenting with solitary diaphragm metastasis

Standing L[1], **Umapathy H[1]**, **Kumar V[1]**

[1]Mrs

Aims
Solitary diaphragmatic deposit is a rare occurrence in endometrial cancer; therefore, we aim to report of this rare occurrence and produce a literature review.

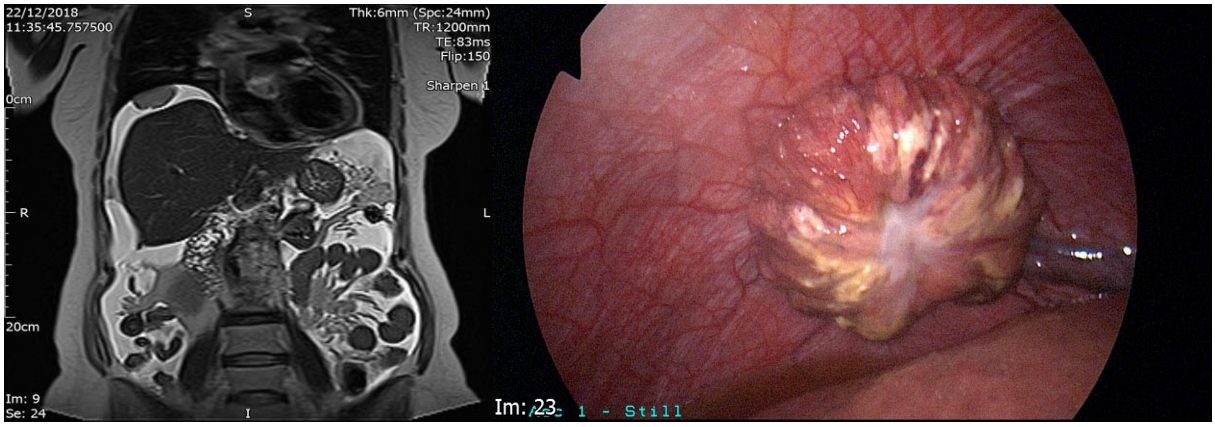
Background
A 73 year old lady presented in late 2018 with symptoms of post-menopausal bleeding for 2 weeks duration. A staging MRI abdomen revealed a bulky soft tissue with in endometrial cavity, measuring 26mm. There was extensive intra-abdominal and pelvic ascites. Also a deposit measuring 4cm was seen below the right hemi diaphragm. A diagnostic laparoscopy showed a large cancerous and infected soft tissue deposit seen under the right hemi diaphragm. Biopsies confirmed low grade endometrial cancer with isolated metastasis to diaphragmatic surface.

Methods
Isolated case, literature search following the unique case.

Results
On immunohistochemistry both diaphragmatic and uterine tumour shows a similar labelling profile, indicating these are of the same tumour subtype and not separate primary. In view of FIGO stage IV disease, curative intent surgery and suspicious military disease felt on small bowel surface, we recommended further treatment with a course of carboplatin and paclitaxel chemotherapy.

Conclusions
Carcinoma endometrium (uterine cancer) is the fourth most common cancer diagnosed in women in the UK and mostly presents in early stages. Presentations with distant metastases are less common and usually involve multiple sites. The most common sites of metastasis from endometrial cancer are in the abdomen particularly omentum, abdominal lymph nodes and lung. The rare sites of metastasis from endometrial cancer that are reported in the literature include bone, brain, spleen and liver. We report a case of endometrial cancer presenting with solitary metastasis to diaphragm and we did not find any similar case reported in the literature.

Endometrial cancer usually metastasis by direct invasion or lymphatic spread. Some of the rare cases with isolated metastasis like the inguinal node is moderately differentiated cancer. Our case is unique that it was low grade with no lymphovascular invasion. Metastasis to diaphragm commonly arises from lung, malignant mesothelioma and thymoma.



P-54

Equipping the next generation of evidence-based surgical gynaeoncologists through interactive web-based seminars

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Aims

The British Gynaecological Cancer Society (BGCS) webinars aim to establish the first national web-based education programme to promote evidence-based professional development for gynaecologists and other health professionals involved in the care of women with gynaecological cancers.

Background

Curriculum-based surgical training identifies key competencies required for theoretical knowledge and technical and non-technical skills. Some of these competencies are not readily achieved through day-to-day clinical exposure. Web-based platforms can overcome significant barriers to the continual professional development of gynaeoncologists, including the geographic spread of trainees and trainers, long working hours and costs.

Methods

A series of 15 webinars were hosted by the core BGCS webinar team between November 2017 and January 2019. The free-to-attend programme included monthly lectures by national and international experts, critical appraisal of scientific reports and periodical half-day teaching ('away-days') to complement specific modules of the RCOG gynaecological oncology curriculum. Audience could attend the real-time sessions and download the recordings via the BGCS online library.

Results

The median number of attendees for each real-time session was 11 (interquartile range= 7-15), with 30 downloads (interquartile range= 17-50). When attendees were asked to rate each session (scale of 1-5, with 1= Strongly disagree; 5 = Strongly agree), most agreed that the sessions were useful (mean ± SD= 4.2 ± 0.4) with high-quality content (mean ± SD= 4.3 ± 0.3) and presenters (mean ± SD= 4.5 ± 0.3). The majority (64%, 23/64) of sub-specialist trainees responded to a survey after the BGCS Annual Fellows' Day had previously attended BGCS webinars, and BGCS was the second commonest online learning resource used for gynaecological management by this group (19/77 responses, 25%).

Conclusions

Feasibility, acceptability and high levels of satisfaction were demonstrated by the early BGCS webinars. We are working towards formal professional development accreditations, supporting trainees' research collaboratives and improving multi-disciplinary team-based learning.

P-55

A case series: review of the recurrence rates associated with women undergoing minimally-invasive versus open surgery for early-stage cervical cancer in a tertiary centre

Lovett A

Background/Objectives

Recent publications have become a cause of concern for the gynaecology-oncology community by calling into question the outcomes of women undergoing minimally-invasive surgery for early-stage cervical cancer. Laparoscopic surgery has become the preferred method of treatment compared with open hysterectomy and therefore the results of such papers has raised questions as to whether healthcare professionals are placing their patients at an automatic disadvantage by utilising minimally-invasive techniques. At the University Hospitals of North Midlands (UHNM), a local database allowed for review and audit of the management provided through shared record-keeping. The aim of this project was to assess the outcomes of treatment provided through analysis of the dataset, with the aim to review recurrence rate for women undergoing minimally-invasive surgery for early-stage cervical cancer.

Method

A retrospective data-analysis of the database used at UHNM was conducted. The database contained 49 records of women with early-stage cervical cancer requiring surgical management, hence graded as 1b1 cervical cancer, since its inception in 2015. Those who were not treated within the Trust or had undergone previous partial hysterectomy were excluded from the case series.

Results

Since 2015, 33 patients underwent either laparoscopic or open surgical management at UHNM. Only 2 (6.06%) underwent a Wertheim's hysterectomy compared with 31 (99.94%) undergoing laparoscopic approach. Six (18.18%) underwent adjunct therapy postoperatively. In this case series, none had recurrence of the cancer; however, it must be remarked that a number underwent procedures within one year of audit conduction.

Conclusion

Although recent publications have identified a serious possible disadvantage to managing early-stage cervical cancers with minimally-invasive surgery, this data-analysis demonstrates that at UHNM recurrence rates are non-existent. In order to conclusively add to the body of work being completed within the gynaecology-oncology community, a re-evaluation of long-term outcomes should be undertaken to assess 5-year mortality rates.

P-56

Successful reconstructive surgery in treating invasive Paget's disease of the vulva: A Case Report

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Aim

To demonstrate the efficacy of a multidisciplinary approach (reconstructive and gynaecology oncology surgery) in successfully managing the patient with extensive Paget's disease of the vulva.

Background

A 65 year old with longstanding Paget disease of the vulva eventually developed an invasive component. She had extensive involvement of the entire vulva and extending upwards to the mons pubis (15x13cm). Medical treatment over the past 10 years had been unsuccessful. The patient suffered from longstanding vulva discomfort and pruritus. In January 2018 at follow up, a 1cm vulval ulcer was biopsied and showed invasive disease to a depth of 9mm. Due to the widespread involvement, a joint procedure of vulvectomy with reconstructive surgery was planned.

Method

She had vulvectomy and extending 5cm to the mons pubis with insertion of bilateral fasciocutaneous medial thigh perforator flaps. On day 23, she underwent debridement for necrosis of the flap at the mons. A split skin graft was successfully placed 3 weeks later. This healed satisfactorily. 4 months later, she had liposuction to the local flaps and revision of urethral meatus. She has remained disease free and asymptomatic since.

Discussion

This is a rare disease with a varied course. We have had the good fortune of a patient who over the past 10 years, had been followed up with in situ disease which eventually became invasive. Due to the extensive nature of the disease, the choice was radiotherapy or surgery. The former while effective in treatment can lead to radiation scarring and permanent morbidity. The challenge of a joint procedure with reconstructive surgery proved eventually successful. We propose that surgery in the light of capable reconstructive skill should be the primary method in treating patients in this similar clinical scenario.

P-57

Short term Outcomes in advanced stage ovarian cancer in a tertiary cancer centre in UK

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Aims

To look at outcome of stage 3 and 4 ovarian cancer in a tertiary cancer centre.

Background

The five-year survival rate for stage 3 Ovarian cancer is 20% and 5-year survival rate for stage 4 Ovarian cancer is 5%. We looked at our data in Liverpool Women's Hospital in UK to measure to the outcome in advanced stage ovarian cancer.

Methods

This was a retrospective study done in January 2019 wherein we looked at the cases of ovarian cancer diagnosed between April 2017 and March 2018.

Results

Of the 80 cases identified as ovarian cancers 48 cases were stage 3 or 4. 23 of them had primary surgery 19 of them had Primary chemotherapy. One declined surgery and one woman had laparoscopic assessment prior and went on to have chemotherapy. 38 cases were operated of 17 (44.73%) cases had optimal cytoreduction. At the time of study there were 8 cases of disease progression and 11 deaths (22 %, 5 in Operated and 6 in not operated group)

Conclusions

The advanced stage ovarian cancers have got a poorer outcome generally therefore still efforts are needed to identify the ovarian cancer earlier, surgical techniques to improve the complete surgical resection without increasing the complications and newer chemotherapies to increase the survival rate.

P-58

Disappearing Uterine Carcinosarcoma Following Uterine Artery Embolisation

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Aims

To report the resolution of uterine carcinosarcoma in a patient who presented with profuse vaginal bleeding requiring uterine artery embolisation (UAE) to control bleeding.

Background

A 55-year-old woman presented with profuse vaginal bleeding and shock. Pelvic examination found a 6cm circumferential irregular ulcerated mass on the cervix with fleshy growth at right cervical lip and suspected left parametrial involvement. CT abdomen and pelvis showed a large well circumscribed mass in cervix and lower uterus measuring 8.1 x 8.9 x 11.7 cm. The mass was mainly hypodense hypoenhancing but showed irregular enhancing area with hypervascularity on arterial phase.

Methods

She underwent emergency bilateral UAE which stopped the bleeding. Cervical mass biopsy showed carcinosarcoma. MRI pelvis (8 days after UAE) showed irregular soft tissue mass distending the uterine cervix measuring 3.8 x 4.3 x 9.0cm with extension to involve endometrial cavity, uterine myometrium, anterior vaginal fornix and left parametrium. She was then referred to our hospital for further management. Pelvic examination was repeated (23 days after UAE) which revealed normal appearance of cervix with no cervical mass found and normal parametrium. MRI pelvis was repeated (33 days after UAE) which showed no cervical or endometrial mass, and only ill-defined signal at the lower uterine segment with early arterial enhancement. She then underwent robotic assisted total hysterectomy, bilateral salpingo-oophorectomy, pelvic and para-aortic lymphadenectomy and omental biopsy (36 days after UAE). Post-operative recovery was uneventful.

Results

Histopathology showed no evidence of residual malignancy in all the surgical specimens. Options of observation, adjuvant radiotherapy or chemotherapy was discussed with the patient and she opted for observation.

Conclusions

Uterine carcinosarcoma may resolve after UAE. If there is significant change in clinical findings, further imaging should be considered which may aid in planning of further treatment.

P-59

An unusual case of sigmoid cancer presenting with postmenopausal bleeding.

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Aims

To present an unusual case of a woman presenting with post-menopausal bleeding due to colorectal cancer invasion into the uterus.

Background

A 78-year-old woman presented with post-menopausal bleeding. She had been experiencing mild, intermittent, lower abdominal pain for 6 months with no change in the bowel habits. Past medical history included obesity, Type II diabetes and dyslipidaemia.

Her abdomen was soft and non-tender, and no masses were felt, and speculum examination revealed pus in the vagina. Bimanual examination was unremarkable.
Dilatation and curettage was performed under general anaesthetic after 3 doses of intravenous antibiotics and endometrial biopsy was sent for histology.

Methods

Case report.

Results

A grade 2 endometrioid adenocarcinoma was initially diagnosed from endometrial biopsy, however the MRI and CT imaging suggested colorectal cancer fistulating into the uterus. Subsequently, urgent colonoscopy and PET scan diagnosed sigmoid cancer invading the bladder and uterus with no distant metastases.
Patient underwent pelvic extenteration involving cystoscopy, bilateral ureteric catheter insertion, sigmoid resection with en block bladder cuff, total abdominal hysterectomy, bilateral salpingo-oophorectomy, pelvic lymphadenectomy and defunctioning loop ileostomy.
Twenty-seven lymph nodes were removed; one of which was positive for metastases and the final staging was PT4b PN1 PM0, Dukes C1. The patient made a good surgical recovery and adjuvant chemotherapy declined. A CT scan five months post-surgery did not show any evidence of cancer.

Conclusions

Post-menopausal vaginal bleeding is always an alarming symptom with 10% of these women being diagnosed with endometrial cancer. The endometrium is a rare site of metastasis, especially from colon cancers, which are responsible for 3% of the secondary to the endometrium neoplasms. Despite presenting with stage 4 disease, surgical resection with clear margins was achieved with multi-disciplinary approach involving colorectal surgeons, urologists and gynaecologists.

P-60

Exploring ovarian cancer treatment variation and international differences in survival by stage

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Aims

We explored whether international differences in ovarian cancer treatment exist, and to what extent they may be contributing to observed differences in survival by stage.

Background

The International Cancer Benchmarking Partnership (ICBP) SurvMark-2 study demonstrated international differences in survival by stage for ovarian cancer. These differences indicate variations in access to optimal treatment across participating countries.

Methods

To explore treatment by stage across countries, a document analysis of clinical practice guidelines (CPGs) was undertaken. A clinical working group was formed to validate initial results. Following roundtable discussions and teleconferences, a patterns of care survey was conducted to augment comments from clinicians in each country.

Results

Whilst the content of CPGs for surgery remained largely consistent, patterns of surgical care varied widely across clinicians, particularly in reported rates of primary debulking surgery (PDS) and ultra-radical procedures. Variations were found in CPG recommendations and patterns of care for the use of intra-peritoneal chemotherapy, bevacizumab, BRCA testing and PARP inhibitors. Differences in health system barriers to optimal treatment were also reported including: inadequate hospital staffing; lack of access to second-line drugs; and the performance of national treatment auditing.

Conclusions

This study suggests variations in ovarian cancer treatment exist and may be contributing to international differences in survival. Variations in surgical practice are likely to be a main driver of survival differences, as well as unequal access to high-cost drugs such as bevacizumab and PARP inhibitors. Our findings support calls for harmonising CPG development to encourage guideline adherence and consistency in care. We strongly endorse the need for national treatment auditing, particularly in countries with lower survival, to identify areas where policy and practice can be improved to ensure better access to optimal treatments.

P-61

Synchronous Ovarian and Endometrial Cancers; A 10-year Retrospective Review in a Tertiary Centre

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Aims

1. Describe the incidence and survival outcomes of synchronous primaries.
1) Consider survival outcomes to matched case-control cohorts.

Background

The epidemiology of synchronous ovarian (OC) and endometrial cancers (EC) is poorly understood with conflicting hypotheses. Prognosis is uncertain and there is a need to understand if it is advantageous for patients with concordant histology to be treated as two synchronous primaries or a metastatic single primary. There are significant clinical implications with either approach.

Methods

All cases of synchronous OC and EC 2007-2017 were identified from the departmental database. Patient demographics alongside clinicopathological data were collated. Survival analysis using 1:1 case-controls for isolated OC and EC, matched for age, diagnosis year, FIGO Stage, histological subtype, grade and surgical outcome was undertaken.

Results

72 cases of synchronous cancers represented 3.6% of total OC and 2.7% of total EC cases in the study period. 39(54%) presented with presumed/confirmed OC with asymptomatic incidental diagnosis of EC; whilst 46% presented with symptomatic, biopsy proven EC, with incidental diagnoses of tubo-ovarian (88%), or primary peritoneal cancer (12%). Concordant histological subtype was seen in 43(60%) cases, of which 32(74%) were endometrioid. ≥2 antigens in an IHC panel was discordant in 89% of such cases.

Overall survival (OS) was worse in synchronous cases compared to EC case controls (p=0.0419), but no significant difference was observed between synchronous cases and OC controls (p=0.6235, log-rank). In OC cases with concordant EC morphology where endometrial metastases would have resulted in higher stage (n=19), subgroup analysis suggested improved OS in synchronous cases compared with higher stage OC controls (p=0.0282, Wilcoxon).

Conclusions

Synchronous OC and EC cancers occur infrequently with significant challenge in cases with concordant histology. Survival analysis suggests at least equivalent prognosis to matched ovarian cancers. An expanded dataset is needed to establish treatment algorithms.

P-62

WITHDRAWN

P-63

Survival in 1B1 Cervical cancer treated by radical hysterectomy via open or minimal access approaches at a medium sized cancer centre in the United Kingdom.

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[1]University Hospitals Of Derby And Burton

Background

Traditional management of Stage 1B1 cervical cancer has been the radical hysterectomy. Traditionally this was performed via laparotomy (TARH) although increasingly this has been performed via laparoscopy (TLRH). Two trials have demonstrated worse survival in patients undergoing minimal access radical hysterectomies. Our aim was to review the survival outcomes of women who were treated with radical hysterectomies via either open or laparoscopic routes treated at the University Hospitals of Derby and Burton (UHDB).

Method

We identified all patients diagnosed with Stage 1B1 Cervical cancer treated with either TARH or TLRH at UHDB with either squamous, adenosquamous and adenocarcinoma histology. A propensity scored analysis was performed to compare 5-year overall survival (OS) and progression-free survival (PFS), and Disease specific survival (DFS) with matching for Grade and Histological Subtype.

Results

110 patients were identified between 1/11/00-17/8/19. Of these patients 63(57%) underwent TARH and 47(43%) TLRH. OS was 91.2% in those receiving TARH compared to 100% in those receiving TLRH. PFS was 86% in those receiving TARH arm compared to 97.6% in those receiving TLRH. DFS was 94.7% in those receiving TARH arm compared to 100% in those receiving TLRH.

A propensity score was performed to match 47 TLRH patients with 47 TARH patients. Overall survival was greatest for those women who underwent TLRH compared to TARH (100% versus 89% respectively, P= 0.12). PFS was greatest in women who had undergone TLRH (98%) compared to TARH (80%). Women who had undergone TLRH had DFS of 100% compared to 90% of those women who had TARH.

Conclusion

In contrast to two recent studies our data demonstrates a higher 5-year OS and 5 year PFS following TLRH compared to TARH. We wonder if other issues such as laparoscopic surgical technique or differences in tumour biology/patient factors may explain the findings of the LACC trial.

P-64

Regular follow up with cervical/vault cytology is of questionable value in patients treated for microinvasive cervical cancer.

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Aims

To assess the value of various follow up regimes in microinvasive cervical cancer.

Background

Follow up for women treated for microinvasive cervical cancer depends on stage at diagnosis. The BSCCCP states, for completeness, that women treated with fertility preserving surgery for stage 1a1 disease could be offered cervical cytology at 6 and 12 months and yearly for 9 years. Stage 1a1 treated with hysterectomy or 1a2 disease follow up is determined by gynaecological oncologist and local cancer pathways.

Methods

A retrospective review of all patients treated for Stage 1a1 and 1a2 cervical cancer from 01/2002–12/2018 at the University Hospitals of Derby and Burton (UHDB) identified from the hospital databases. Only patients with squamous or cervical adenocarcinomas were included.

Results

101 cases were identified. 84(83.2%) were stage 1a1 and 17(16.8%) were stage 1a2. 75(74.3%) had squamous histology and 26(25.7%) had cervical adenocarcinomas. Median follow up was 64 months.

Only one(1%) case of occult microinvasive cancer was identified post-hysterectomy for presumed benign disease, the other 100(99%) patients were diagnosed/treated with conservative/fertility sparing procedures. A second procedure due to involved/close margins with cancer/persistent precancer was performed in 75(74.25%) cases, of these, 50(66.67%) had conservative/fertility sparing procedures and 25(33.33%) had hysterectomy. Residual cancer was found in 3(4%) of second treatment specimens.

Of patients followed up with vault smears all 45(100%) smears were negative.

For patients treated conservatively (68 1a1 and 7 1a2) 377 smears were performed. 338(89.67%) were negative, 8(2.1%) borderline, 27(7.2%) inadequate, two(0.5%) low grade and two(0.5%) high grade.

Of the two high grade smears only one required a LLETZ that demonstrated CIN3. No cases of recurrent cancer were identified. Only 1/75(1.3%) of patients treated conservatively had recurrent CIN2/3/CGIN.

Conclusion

Microinvasive cervical cancer is effectively treated with conservative surgery and reducing the intensity of follow of these patients should be considered.

P-65

Does Progression Free Survival (PFS), Overall Survival (OS) or platinum sensitive interval (PSI) differ in patients undergoing intermediate/high complexity surgery for advanced ovarian cancer (AOC) when treated by primary (PDS) or Interval (IDS) debulking surgery?

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Aim

To investigate if PDS or IDS, affects the OS, PFS or PSI in a cohort of AOC patients receiving high quality surgery.

Background

Both CHORUS and EORTC 55971 demonstrated no difference in OS/PFS between PDS OR IDS. However, both trials have been criticised due to low surgical quality. Retrospective reviews have suggested differences in OS/PFS/PFI.

Methods

All patients with AOC treated between 02/2014-01/2019 obtaining complete cytoreduction with intermediate/high surgical complexity. Recurrence was defined on radiological/CA125 findings. Platinum sensitivity was defined according to international standards.

Results

53 patients were identified (32 PDS and 21 IDS) with full recurrence data. No difference was seen in Age or Surgical complexity. 25 patients had recurred (15 PDS and 10 IDS). No difference was seen between groups in OS or PFS. Median survival was not yet reached. 56% were alive at 41months and 52% alive at 48 months in PDS and IDS groups respectively. Median PFS was 20.7 months in both groups. PFI did not differ between PDS or IDS patients.

Conclusion

This study supports the findings of previous randomised studies that no difference persists in OS, PFS or PSI in patients undergoing PDS or IDS.

P-66

Impact of Splenectomy on survival in advanced ovarian cancer (AOC) in a propensity matched cohort

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Aims

To investigate if splenectomy negatively impacts survival when undertaken in cytoreductive surgery for AOC.

Background

Ultra-radical procedures, including splenectomy, are utilised during cytoreductive surgery in AOC to treat disease that would not be removed with standard procedures, the intention being to increase complete cytoreduction rates. Hypothetically the performance of splenectomy may independently be a marker for worse survival due to detrimental effects on immune function or its complications.

Methods

A retrospective review of all consecutive patients undergoing cytoreductive surgery for AOC between 16/05/2013-6/02/2019. Survival, complications and surgical parameters were recorded. Propensity scored matching (PSM) was performed, allowing comparison between splenectomy patients with both standard and ultra-radical surgery without splenectomy.

Results

151 patients were identified within a 71 month time period. Of these 100 underwent standard and 51 underwent ultra-radical surgery. 22 patients received splenectomy (14.5%)

No difference was seen in Overall survival (OS) between all patients (median OS 34 months (95%CI 25.9-41.1) and patients undergoing splenectomy (median OS not yet reached) (p = >0.05).

When comparing UR only patients, neither arm reached median OS; HR = 1.8 (0.64-5.3), p > 0.05.

After PSM for grade, stage, age and cytoreduction, no significant difference in splenectomy versus non-splenectomy patients (3-year survival 54% compared to 56% (hazard ratio - 1.1(95%CI 0.39–3.2). (P>0.05).
When matching only to Ultra radical controls, no significant difference in OS was seen with median OS not reached in either arm (HR – 2.6(0.55-13) p > 0.05).

Splenectomy specific complications were seen in 3 patients; one pancreatic tail injury, one left pleural effusion and one cases of streptococcal pharyngitis during chemotherapy.

No cases of overwhelming post splenectomy infection were identified.

Conclusions

Splenectomy does not negatively impact the complication rates of surgery or survival; and should not be feared by gynaecological oncologist undertaking ultra-radical surgery for AOC.

P-67

Prevalence of occult cancer in biopsy proven VIN3 and dVIN in lesions suspicious and not suspicious of malignancy

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Aim

To determine the prevalence of invasive cancer in biopsy proven VIN3/dVIN. To determine whether clinical suspicion (or not) of invasion in lesions where the biopsy shows precancerous lesion changes can help tailor management allowing less radical treatment.

Background

The prevalence of occult invasive malignancy in biopsy proven VIN3/dVIN has been suggest to be between 9-22%. Traditionally precancerous vulval lesions have been treated with a wide local excision which can significantly alter the vulval anatomy

Method

Retrospective study of all patients at the Royal Derby Hospital from

Results

86 patients were identified. 71 patients were diagnosed with VIN3 at the initial biopsy of which 7(9.8%) showed invasive cancer after WLE/SV. When subgrouped by clinical suspicion (if recorded) 4/11 (36%) suspicious VIN3+ve lesions showed cancer compared to 2/46 (4.3%) that did not. Overall the PPV and NPV for clinical assessment in biopsy proven VIN3 was 36% and 96% respectively.

15 patients were diagnosed with dVIN, of which 6 (40%) demonstrated cancer after WLE/SV. Clinical suspicious was recorded in five cases of which four (80%) ultimately had a cancer after WLE/SV. The PPV and NPV for clinical suspicion of invasion in dVIN was therefore 80% and 78% respectively.

Conclusion

Prevalence of occult carcinoma in biopsy proven VIN3 and dVIN is 9.8% and 40% respectively in this cohort. Clinical suspicion at the time of biopsy alters the subsequent risk of malignancy and may allow less radical surgery in selected women with VIN3 with no clinical suspicion of invasion.

P-68

Poor AT and VO2 max recorded during Cardiopulmonary Exercise Testing (CPET) prior to cytoreductive surgery in advanced (Stage 3/4) ovarian cancer (AOC) is associated with suboptimal cytoreduction but does preclude maximum effort cytoreduction

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Aims

To assess the use of CPET in predicting oncological outcomes, post-operative recovery and complications in AOC cytoreductive surgery.

Background

Using CPET pre-operatively to assess functional capacity and help estimate if patients can cope with the physiological stress of major surgery is increasing utilised across many different conditions. No research is currently available on the value CPET can have on predicting outcomes and complications following AOC cytoreductive surgery.

Methods

A retrospective review of all patients who had CPET prior to AOC cytoreductive surgery with evidence of upper abdominal disease on preoperative imaging at the University Hospitals of Derby and Burton (UHDB) between August 2016 and February 2019. Patients were stratified into two groups, based on their anaerobic threshold (AT) (AT <11 and AT >=11) and maximum VO2 (VO2 <15 and VO2 >=15). Cytoreduction (Complete (R0), <1cm (R1) or >1cm (R2)), surgical complexity, complications within thirty days, length of hospital stay (LOS) and readmissions were assessed.

Results

36 patients were identified. AT showed no relationship with thirty-day complications or death rates. 100% of patients in the AT>=11 group received R0 (n=18, 90%), or R1 (n=2, 10%) cytoreduction, whereas in the AT<11 group, only 68.75% underwent macroscopic resection (R0/R1, p=0.01). Surgical complexity was higher in the AT>= 11 group (p=0.003) and the VO2>=15 group (p=0.003). No other correlations were seen between AT or VO2 max and complications, LOS or readmissions.

Conclusions

CPET is not an effective tool for determining appropriateness for surgery. No correlation has been found between performance at testing and complication rates. The majority of patients with AT<11 achieved R0/R1 resection despite a higher rate of suboptimal surgery. Discounting patients from cytoreductive surgery based on CPET results alone is not supported by our study, however CPET may have a role in conjunction with other investigations (eg. echocardiogram, PFT's), or in selected patients.

P-69

A retrospective study on the management and outcomes of low-grade ovarian cancer at the Dorset Gynaecology Oncology Network

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Aims

Our aim was to ensure standardisation of diagnostic pathways, management and adjuvant treatment of patients with low grade ovarian cancer.

Background

Low-grade ovarian cancers are relatively rare which makes guidance on treatment challenging. Studies have shown chemotherapy only having a 25% response rate in low grade epithelial cancers and surgery remains the cornerstone of treatment.

Methods

We conducted a retrospective study on all low-grade ovarian cancers treated by the Dorset Gynaecology Oncology Network between 2011-2017.

Results

There were 44 patients audited in total. The average age was 60 (range 27 to 60).
Four patients had fertility conserving surgery. Average length of stay was 6.63 days (range 2 to 27). Surgical complications included 1 wound breakdown with infection, and 1 ureteric injury.

Twelve (27%) patients were given adjuvant chemotherapy, twenty-five were not and five were offered but declined. One patient received radiotherapy. There were five deaths from recurrent disease and one patient dies of unrelated causes.

Conclusions

No stage 1A/B cancers were offered adjuvant chemotherapy. However, there was significant variation in adjuvant chemotherapy for higher stages of disease. The recurrences that occurred were very hetrogenous and no conclusions can be drawn from these. Overall, this represents the challenges described by the BGCS due to the limited evidence in chemotherapy in low-grade ovarian cancers. This raises the question whether a local guideline should be developed to standardise the care for this group of patients. It highlights the need for multicentre studies.

P-70
Primary Squamous cell carcinoma of the endometrium

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Background
Primary endometrial squamous cell carcinoma accounts for 1% of uterine malignancies. Only a few cases have been published since the first report in 1892.

Case
A 69-year-old lady presented with a 2-week history of light postmenopausal bleeding. She has a past medical history of interstitial lung disease, alpha 1 antitrypsin deficiency, asthma and mitral valve prolapse.

An ultrasound scan showed an ET of 20.6mm. An outpatient hysteroscopy showed no definite abnormalities and a pipelle biopsy was taken.

The histology confirmed a well-differentiated squamous cell carcinoma with a negative p16 stain.

The patient went on to have a colposcopy, cystoscopy, hysteroscopy and endometrial biopsy. Colposcopy and cystoscopy revealed no pathology but hysteroscopy showed thickened endometrium likely representative of cancer. The histology confirmed squamous cell carcinoma. Staging MRI suggested stage 1B disease.

The patient went on to have a total laparoscopic hysterectomy and bilateral salpingoophorectomy. Histology confirmed endometrial squamous cell carcinoma, moderately differentiated, FIGO stage 1B.

The patient went on to have external beam radiotherapy (Actual fractions delivered 25, Actual dose 4,500 cGy, treatment length 36 days) and brachytherapy. She has since remained recurrence free in follow up after 1 year.

Conclusion
This is a rare form of endometrial cancer. Due to the rarity of the disease many different treatment modalities have been suggested in the literature including surgical resection with or without adjuvant chemotherapy/ radiotherapy. It has been suggested it may have better prognosis than other forms of endometrial cancer.

P-71
Bone recurrence from borderline mucinous ovarian tumour

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Background
We present a rare case of mucinous borderline ovarian tumour recurring with malignant bone metastasis four years after initial diagnosis. Overall, bone metastases in ovarian cancer are rare with isolated cases reported in literature of serous carcinomas metastasising to bone. There have been few reported cases of mucinous ovarian cancers recurring in bone.

Case
A 66-year-old lady presented acutely with a palpable abdominal mass. Past history included a total abdominal hysterectomy. CT scan showed a 15cm complex cyst of the right ovary. Staging laparotomy showed a leaking right ovarian tumour with no other sites of disease and no residual disease. Histology confirmed a borderline mucinous tumour of the right ovary FIGO stage IC2 with a normal histological appendix.

Four years later she had an isolated raised Ca 125and underwent a CT scan showing right-sided hydronephrosis but no evidence of abdominal recurrence.

A PET scan demonstrated widespread bone metastases. These were seen in the following; Right 1st rib and 2nd rib, sternum, right inferior pole of scapula, right 8th rib, left 6th rib, T10, T12, L2, diffuse involvement of T11 and L5, left sacrum, right and left iliac wings and right superior pubic rami.

A bone biopsy of T11 showed infiltration of bone marrow cores by a well differentiated mucinous adenocarcinoma.

She was not fit for palliative chemotherapy and died shortly after diagnosis.

Conclusion
This is a rare case of mucinous ovarian cancer metastasising to bone four years after initial diagnosis.

P-72

Multidisciplinary approach in management of renal transplant patient with endometrial endometrioid adenocarcinoma and incidental finding of synchronous endometrioid ovarian carcinoma. Case report

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Background

Cancer is a major source of morbidity and mortality following solid organ transplantation. Overall risk of cancer is increased between two- and threefold compared with the general population of the same age and sex.

Case report

50 yrs old patient presented with recurrent postmenopausal bleeding and raised CA125 (118 iu/ml) eight months after having cadaveric renal transplant due to the chronic kidney disease secondary to the reflux nephropathy. G2 endometrial endometrioid adenocarcinoma was identified on endometrial sample. Cross sectional imaging showed organ confined disease. After MDT discussion via midline incision total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed jointly with urology, vascular and transplant and gynaecological oncology surgeons. Three ureters were stented at the beginning of the surgery. Peritoneal washings were sent for cytology, and representative omental biopsy was taken. Pelvic lymphadenectomy was not possible due to renal transplant dense adherence to the right pelvic side wall. The patient had ITU management postoperatively with renal team support. The patient made a good recovery. The final histology identified G1 endometrioid adenocarcinoma of the endometrium and synchronous G1 Endometrioid adenocarcinoma of the ovary arising within atypical endometriosis with right tube involvement. Stage 2a. Due to incidental stage 2 ovarian cancer consideration of adjuvant chemotherapy was advised by MDT. Chemotherapy was declined by the patient.

Discussion

The presence of the graft in the pelvic position poses a risk of graft injury and subsequent failure. Presence of graft can limit the possibility to perform an adequate lymphadenectomy as well as putting the ureter and transplant vascular supply at risk. Chemoradiation may lead to renal function impairment, and its use in these patients is very limited.

Conclusion

Treatment of transplant patients with gynaecological cancer is complex and requires an extended multidisciplinary team approach.

P-73
Evolution of endometrial cancer treatment within one unit.

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Aims
This was a retrospective study of women with endometrial cancer in NHS Tayside. They were operated on by the gynae-oncology team in a six year period where practice changed from open to laparoscopic hysterectomy. The demographics of these women and the type of surgery they underwent were compared and related to clinical outcomes measured by length of stay and complication rate.

Background
The standards used were from the North Of Scotland Cancer Network (NOSCAN) in 2015. Total hysterectomy and bilateral salpingo-oophorectomy provide the best long term survival for endometrial cancer. Laparoscopic surgery should be performed where appropriate with a target of 70%.

Methods
Data was collected through online clinical portal and patient case notes. The age, BMI, procedure type, grading, complications, length of stay and readmission were noted. The data were divided into 3 groups. Group A (April 2011- March 2013) was when open hysterectomy was favoured. Group B (April 2013- March 2015) was during the transition from open to laparoscopic surgery. Group C (April 2015- March 2017) was after full integration of laparoscopic approach.

Results
There were 68 people in group A, 53 in group B and 91 in group C. The mean age did not vary between the 3 groups (62-67). Mean BMI increased from 30.4 in group A to 36.6 in group C. However, the highest BMI operated on changed from 46.9 to 58.4. 30%, 64% and 98% of surgeries were completed laparoscopically in groups A, B and C respectively. The complication rate was 16% in Group A and 9.1% in Group C. The average length of stay in group A was 5 days and 2 days for group C.

Conclusions
This chronological study within a single cancer unit demonstrates that adoption of new evidence-based techniques lead to better clinical outcomes for patients with endometrial cancer.

P-74

WITHDRAWN

P-75

Review of surgical Management of endometrial cancer at Nottingham City Hospital

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Aims

Audit surgical management of Endometrial cancer in 2016 to benchmark local standards and compare to the standards later published by the BGCS Uterine cancer guidelines 2017

Background

Laparoscopic surgery remains the standard of care when feasible in uterine cancer. Over the years, there has been an increase in number of cases managed laparoscopically within UK. Practice of pelvic lymphadenectomy in type 2 endometrial cancer is variable.

Methods

We used our hospital's histopathology register and analysed 80 cases of endometrial cancer treated in 2016. We audited the route of hysterectomy and the perioperative morbidity and mortality. We collected and analysed the data assessing the staging and histology pre and post operatively to look at concordance.

Results:

1. Laparoscopic hysterectomy rate: 82 % (reasons for open procedures – Previous major surgery, large uterus, anaesthetic issues, other indications)

- No major intraoperative complications and post-operative complication rate of 5 % (Readmission with pain, wound dehiscence, Nausea and vomiting, vaginal bleeding)
- One perioperative death (1 case with multiple co-morbidities, identified as high risk pre-op. (1 in 80, 1.25 %)
- The stage was accurately estimated in 64.9% of cases.
- The histological type and or grade concordance pre and post op reached 82.1%.
- Type 2 cancers were 42 %. 65 % of these had pelvic lymphadenectomy with 32 % node positivity rate. No intra-operative complications were encountered due to lymphadenectomy.
- The length of stay was 2.87 days and lymphadenectomy didn't have an effect on it. The LoS was higher than average due to pre-operative admission of peripheral unit patients a day before in 2016.

Conclusions

There is need for a better pre-operative work up for predictive stage as this influence decision for lymphadenectomy in our practice.

P-76

Vaginal Melanoma: Diagnosis and Management: The importance of a Multidisciplinary Approach (Case Report)

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Aims

Highlight the complex nature of this rare case and the multidisciplinary approach to management.

Background

Vaginal Melanoma accounts for 3% of Vaginal Cancers and 0.3% of Melanoma. Prognosis is poor depending on tumour size, lymphatic spread and metastasis.

Methods

Case note review, discussion with teams involved. Patient consent obtained.

Results

38 year old Caucasian woman presented to colposcopy with irregular bleeding and possible invasive cells on smear. Cervical punch biopsy was benign, biopsy of her vaginal wall confirmed metastatic malignant melanoma. CT scan neither identified the primary tumour nor any distant metastases. MRI scan requested following a cancer centre MDT review, described a 1.9x1.8cm mass in the mid-upper vagina. She had an examination under anaesthetic where lesions were noted on her vagina and periurethrally. As non-surgical options such as immunotherapy, neoadjuvant targeted therapy, chemotherapy and radiotherapy were ineffective, the MDT recommended a total vaginectomy ± cystectomy as the best approach in view of the tumour site. The patient was counselled regarding body image alterations, possibile ileal conduit and high morbidity risk. Following psychological review, 2 months post-presentation she underwent TAH & BSO, total vaginectomy, lymph node sampling and perseveration of her bladder. Histopathology reported PT4b (>4mm thickness with ulceration) PNO. At 9 month follow up she remains well without recurrence She is considering vaginal reconstruction if she remains well after 2 years.

Conclusion

This case is presented to add to the literature and raise awareness of a rare condition, and challenges posed to diagnosis. Once histologically confirmed, multiple disciplines must communicate within a limited timeframe to prepare patients for treatment. Treatment options themselves are complex, requiring intense specialist involvement. No standard protocol for management currently exists.

P-77

Endometrial Cancer in Premenopausal Women: pre-diagnostic management and diagnosis in NHS Tayside

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Aims

Evaluate management and diagnosis of premenopausal women with endometrial cancer in NHS Tayside

Background

Over 90% of endometrial cancers occur in post-menopausal women and guidance is limited for the premenopausal cohort. Recommendations now suggest to biopsy women over 45 years with abnormal uterine bleeding (AUB) or with known risk factors or failed medical management.

Methods

Premenopausal patients with endometrial cancer diagnosed between May 2014 and March 2018 in NHS Tayside were identified. Information was collected and analysed from clinical correspondence regarding the referral, presenting complaint, mode of diagnosis, grading and staging of cancer and age at diagnosis. The average number of weeks between referral and first appointment in clinic, first biopsy and diagnosis of cancer was calculated.

Results

Of the 251 patients diagnosed with endometrial cancer, 24 (9.6%) were identified as premenopausal. The mean age at diagnosis was 45 (range of 37-53). The majority (83%) presented with AUB. Close to equal number of cancers were diagnosed by blind biopsy (41.7%) and hysteroscope-guided biopsy (37.5%), whereas the rest (20.8%) were only detected after hysterectomy. 71% of cases were reported as grade 1 and close to half (58%) were classed as stage 1 disease. The average number of weeks from referral to a clinic appointment was 14 (range of 0-93 weeks) and to the first biopsy it was 27.5 (range of 0-108 weeks), respectively. On average, the time interval between referral and cancer diagnosis was 55 weeks (range of 0-223 weeks).

Conclusions

The incidence of endometrial cancer was calculated as 16 per 100,000 and 10% of patients were premenopausal. On average, the diagnosis of cancer was made in just over a year from referral and blind biopsy appears to be non-inferior to hysteroscope-guided biopsy as a diagnostic tool.

P-78

The Prevalence of Obesity in Patients Diagnosed with Endometrial Cancer and its Impact on Management

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Aims

To investigate the prevalence of obesity in endometrial cancer patients at the Edinburgh Cancer Centre during 2016-17, and record their disease characteristics and management. To correlate average body mass index (BMI) with surgery duration for patients undergoing abdominal (TAH) and laparoscopic (TLH) hysterectomies, with and without node dissection.

Background

Endometrial cancer has been strongly linked to obesity, as adipose aromatase activity generates unopposed oestrogens that are pro-oncogenic at the endometrium. Obesity also presents significant intra- and peri-operative challenges when managing this surgically staged disease.

Methods

Edinburgh pathology records were used to identify endometrial cancer patients. Data including patient age, BMI, FIGO stage and grade, and treatments received were recorded from the health record system, Trak, supplemented by Clinical Viewer. Surgical data was collected from the ORSOS database, theatre records, and communication with other health boards. Results were analysed, and statistical calculations performed in IBM SPSS.

Results

Data were collected for 287 patients: the average age was 66.6±11.0 years. 61% were obese. Women most commonly had stage I (69%), grade 1 (57%), and type 1 (83%) cancer, and TLH was the most frequent surgical management (69%). There was no significant difference in duration between TAHs and TLHs ($p=0.45$ with node dissection, $p=0.95$ without), however node dissection took significantly longer in both hysterectomy types ($p=0.00$ for both). Meanwhile, BMI was significantly greater in those undergoing a TLH without node dissection versus those with node dissection (36.6±9.2 vs 31.9±6.2kg/m^2; $p=0.01$), and those undergoing TAH with node dissection (36.6±9.2 vs 30.6±7.9kg/m^2; $p=0.01$).

Conclusions

The data support that endometrial cancer is a disease of obese, post-menopausal women, with laparoscopic hysterectomy the preferred surgical option. The higher average BMI of those not receiving lymph node dissection suggests that obesity prevents complete surgical staging, though that may simply be due to a lower index of suspicion.

P-79

Variation in the outcomes reported by studies of interventions for atypical endometrial hyperplasia: a systematic review (the first step in the development of a CRUK-funded Core Outcome Sets)

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Aims

To evaluate and report the variation of treatment outcomes in all interventional studies for women with atypical endometrial hyperplasia (AEH) from 1990 to December 2018 through a systematic review of the literature

Background

There are numerous medical and surgical options available for managing AEH with various types of outcomes being reported.

Methods

We searched nine major electronic databases and trial registers. Two independent reviewers screened studies and extracted data on study design, the risk of bias of the studies and the quality of reported outcomes.

Results

We included 85 studies on 16,040 women with AEH which comprised 29 randomised and 52 observational studies and four large case series**.** Most studies evaluated medical management of AEH (69.4%; 59/85). Most of the medical studies (72.9%; 43/59) involved progestin therapy (oral, intrauterine system or both routes). Most of the surgical studies (65.4%; 17/26) involved hysterectomy (abdominal, laparoscopic or robotic-assisted approaches). Approximately half of these studies (48.2%; 41/85) did not have primary outcomes stated or clearly defined. These studies reported 254 individual outcomes which we grouped into 47 primary and 207 secondary outcomes, eight outcome domains and 46 specific outcomes. The clinical outcome domain held the highest number of relevant outcomes (26/46; 5%). The two most frequently reported outcomes were “response to treatment (complete, partial, none, stable disease or progressive disease” in 29 of 85 studies (34.1%) and “major surgical complications” in 26 of 85 studies (30.6%). We found a huge variation in the types of primary outcomes reported which subsequently influenced the results presented and the impact they carried to future studies.

Conclusion

Most interventional studies on AEH regularly omit information related to the primary outcome and its definition or measurement. Implementing a core outcome set in future studies should facilitate in informing outcome measure selection and encourage consistent reporting.

P-80

Outcomes of women diagnosed with Ovarian Cancer in NHS Tayside between 1st September 2013 and 31st October 2016

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Aims

This study was performed to evaluate management and outcomes of these women specifically looking at qualify performance indicators.

Background

Ovarian cancer carries the highest mortality rate amongst other gynaecological cancers in the United Kingdom. This is attributable to the ambiguous nature of ovarian cancer symptoms resulting in late presentation, already with advanced disease.

Methods

Patient case notes and the Clinical Portal provided information on clinical communication between all members of the patient's healthcare team. ICE allowed for access to lists of investigations (with results) performed. Wisdom aided in data collection on treatment plans.

Results

The average age at presentation is 69 years old with an age range from 29 to 90 years old. Of the 126 patients most were diagnosed by GP referral (41.3%) to the Gynaecology Only 10 (8.1%) of the 124 patients with available data were recorded to have normal serum CA125.

Amongst the 120 patients who had a CT scan performed at diagnosis, 20 (16.7%) had disease confined only to the ovaries whereas 51 (40.5%) women already had supra-colic omental involvement.

34 (70.8%) of the 48 surgeries were done upfront and 13 (27.1%) were done after chemotherapy (interval debulking). Upfront chemotherapy was given in almost 60% of patients. 9 (45%) of these patients (without treatment) had performance scores that were too poor for chemotherapy.

90 (71.4%) of the 126 patients are now deceased. 85 (95.4%) of the 90 patients died from cancer progression, 1 (1.1%) passed away due to complications of her surgery and 4 (4.4%) from other medical problems unrelated to ovarian cancer. The average duration between diagnosis and death in those who are deceased is 433 days.

Conclusions

The poor survival outcomes of these patients correlated with their advanced stages at presentation. Further analysis needs to be done on the reduced uptake of interval debulking.

P-81

WITHDRAWN

P-82

Managing delayed complications following radical trachelectomy for early stage cervical cancer

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Aims

The aims of this study was to evaluate the complications of patients with early stage cervical cancer who underwent radical trachelectomy (RT) and pelvic lymphadenectomy and to outline an approach to their management.

Background

Cervical cancer is the commonest gynaecological malignancy among women of reproductive age which is diagnosed in earlier stages because of the increased cervical cancer screening. Up to 48% of women with early-stage cervical cancer may be eligible for fertility-sparing treatment. Over the last few decades RT has been well accepted as fertility-sparing treatment for women with early stage cervical cancer, with an overall fertility and livebirth rate of 55% and 70% respectively. The complication rates and long-term prognosis following this procedure are as yet undetermined.

Methods

A retrospective study of women who underwent RT and pelvic lymphadenectomy between March 2009 and January 2019.

Results

Of a total of 23 patients, we overviewed 13 laparoscopic trachelectomies, 5 vaginal trachelectomies and 5 abdominal trachelectomies. There were not any intraoperative complications. The following surgical complications were observed: neurogenic bladder, haematometra secondary to cervical stenosis, chronic left hip pain, extrusion of cervical suture, left external iliac lymphocyst, prolapse of fallopian tube through posterior fornix and suture expulsion. After a regular follow-up (range, 2 to 10 years), there were no recurrences or deaths.

Conclusions

RT and pelvic lymphadenectomy should be offered as an alternative treatment for women with low volume (<20mm maximum dimension) early stage cervical cancer who want to preserve their fertility. Complications of treatment are reported in the literature but management advice of these complications is less apparent.

P-83

Is Neo-Adjuvant Chemotherapy (NACT) followed by Interval Debulking Surgery (IDS) effective in the treatment of Stage IV Serous Endometrial Carcinoma (SEC)

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Aims

To evaluate the effectiveness of NACT and IDS as a treatment paradigm in the management of stage IV SEC.

Background

SEC account for 10% of endometrial cancers but contribute to 40% of deaths. Advanced SEC present with a pattern of disease similar to advanced ovarian cancer. Stage IV SEC patients are treated with primary surgery and adjuvant chemotherapy but NACT with IDS is increasingly being used for those unsuitable for primary surgery. This project was designed to evaluate the survival outcomes in these patients.

Methods

This was a retrospective cohort study. All patients with stage IV SEC diagnosed between January 2011 and December 2015 were identified from Patient Pathway Manager. A randomly selected cohort of stage IV serous ovarian carcinoma (SOC) patients from this time period were included. Information was collected pertaining to their diagnosis, imaging, treatment, recurrence and death. Progress free survival (PFS) and overall survival (OS) were calculated manually.

Results

35 stage IV SEC patients were compared to 45 stage IV SOC patients. SEC patients treated with primary surgery and adjuvant chemotherapy had a PFS of 26 and OS of 33 months compared to 12 months and 22 months respectively for patients treated with NACT and IDS. Patients intended for NACT with IDS but not suitable for surgery had an OS of 15 months. OS for palliative chemotherapy was also 15 months.

Patients with SOC treated with NACT and IDS had a PFS of 30 and OS of 44 months. For primary surgery and adjuvant chemotherapy, PFS was 22 and OS was 46 months. OS for palliative chemotherapy was 21 months.

Conclusions

Primary surgery and adjuvant chemotherapy appears to offer the best outcomes in patients with stage IV SEC and should remain the treatment of choice. A large randomised controlled study is needed to evaluate this further.

P-84

The iKNIFE And Its Application For The Treatment Of Cervical Abnormalities

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Background

Cervical cancer and its precancerous form cervical intraepithelial neoplasia (CIN) commonly affect women of reproductive age. Fertility-preserving trachelectomy procedures are available, but if the excisional margins are not cancer-free, as is the case in 33% of procedures, these women must undergo a hysterectomy, therefore losing their child-bearing potential. Rapid Evaporative Ionization Mass Spectrometry (REIMS), also known as the iKnife (intelligent Knife), analyzes electrosurgery-generated aerosols, using time-of-flight mass spectrometry to provide real time tissue identification without the need for sample preparation, raising the potential for use as an intraoperative diagnostic technique and improving the surgical and fertility outcome for one third of the women who undergo trachelectomy. We conducted a pilot study showing that REIMS can differentiate between cancerous and healthy cervical tissue thus presenting an innovative technique that could drastically improve fertility-sparing operations.

Methods

Cervical biopsies of 89 women were cut using a Covidien diathermy hand-piece. The surgical aerosol produced was transferred into a Waters Xevo G2-S mass-spectrometer. The tissue samples were then stained for histopathological validation. These diagnoses were used in multivariate statistical analysis of mass spectroscopic spectral data, including principal components and linear discriminant analysis performed using Abstract Model Builder (AMX) software. Correct classification rate was checked using leave one patient out cross-validation. A univariant analysis was conducted for the cancerous and healthy samples to identify the significant peaks in the spectral data produced by the Mass Spectrometry (MS). Following this identification, further cancerous and normal cervical tissues were processed with REIMS tandem MS (REI-MS/MS) using the Xevo G2-XS Q-Tof instrument and underwent molecular fragmentation in order to identify the most significant MS peaks that contribute to the separation of cancerous from all normal cervical samples.

Results

The study showed correct classification with REIMS of almost 98%, with overall specificity of 100% and sensitivity for cancer tissue of 83.3%, for CIN 100% and for healthy tissue 100%. PhospathidylCholine (peak at m/z 794.52) and Sphingomyelin (peak at m/z 687.519) were identified as the most predominant lipid membranes in the cancerous cervical samples.

Conclusions

Frozen section is the current method for intraoperative assessment of margin status at the time of trachelectomy, and the concordance between intraoperative frozen section and final histology has been quoted as 84%, similar if not lower than the results of the iKnife, with the disadvantage of a timely process. In addition to providing real-time information, thus reducing operating time, the iKnife has the potential to improve the accuracy of intraoperative margin detection. This could potentially increase success rates of trachelectomy, leading to a truly advanced fertility sparing technique in modern surgery. This principle is also under investigation for use in CIN to be ruled out in the colposcopy clinic.

P-85

Assessment Of The Follow Up Process Following Treatment Of Gynaecological Cancer In South West Wales

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Aims

This audit evaluated whether guidelines for clinical follow-up following treatment of gynaecological cancer were adhered to within the Swansea Gynaecological Oncology Centre (SGOC).

Background

Evidence base limited (Saleni et al 2017) with the general Consensus being the essential component of care. It is surgically Led for the early detection of recurrence. There are unmet needs of the patient including the holistic needs of patients, survivorship and the late effects of treatment.

Methods

The standard used was the All Wales Guidelines on the Management of Gynaecological Cancers (2011). A retrospective analysis assessed the clinical records of all attendees to the SGOC surgical follow up clinic over six-month period (Jan-Jun 2018). Main outcome parameters included actual/ expected follow up dates and confirmed delays, stratified according to diagnosis and length of delay. Data were also collected on reasons for delay and adverse clinical outcomes including disease recurrence.

Results

143 patient records were included in the study. For the entire cohort, the overall delay rate was 80%, with 40% of patients being delayed more than 3 months. In terms of reasons for the delayed appointment: no documented reason was given in more than 70% of cases; 18% were due to hospital cancellation, and less than 10% were due to the patient not attending. Significantly, more than 30% of delayed patients had some type of reported adverse outcomes, with the greatest percentages amongst delayed patients with adverse outcomes being in vulval and cervical cancers (67 and 50%, respectively). The recurrence rate was 5% (7 /143) defined as histological and/or clinical/radiological evidence and was confirmed by the SGOC multidisciplinary team (MDT).

Conclusions

The follow-up process is not compliant with the national standards. A new strategy is due to be implemented in the short – medium term to address several identified deficiencies before the process is re-audited.

P-86

WITHDRAWN

P-87

Could closed-incision negative pressure wound therapy prevent wound infection following extended midline laparotomy in gynaecological cancer surgery?

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Aims

We aimed to compare the incidence of surgical site infections (SSI) in gynaecological oncology patients undergoing midline laparotomy treated with closed-incision negative pressure wound therapy (ciNPWT) with those receiving conventional care.

Background

SSI are common after midline laparotomies, with a considerable burden on patients and health systems. ciNPWT has been shown to be effective at reducing rates of SSI, but there are limited studies of its use in gynaecological oncology settings.

Methods

This was a prospective, pilot, case-control study. 14 patients deemed to be at higher risk of SSI received the PREVENA PLUS™ dressing, while 26 patients received the conventional dressing. All patients underwent operations under the gynaecological oncology team, with midline laparotomy incisions extending above the umbilicus. The follow-up period lasted for 30 days. For each patient, we used the American College of Surgeons (ACS) risk calculator to calculate their risk of SSI, and the average risk of SSI for that operation.

Results

The treatment group was at a significantly higher risk for SSI as calculated by the ACS tool (8.8% treatment group, 6.0% control, p=0.004). The actual incidence of wound infection was 21% (3/14) in the treatment group and 23% (6/26) in the control group (p=0.7).

When only including cases with ACS calculated SSI risk >8%, to stratify for the difference in risk between the two groups, again, no statistically significant difference was found in incidence of SSI (27% (3/11) treatment group, 29% (2/7) control group, p=0.2).

Conclusions

We did not observe a reduction in the incidence of wound infection with the use of the PREVENA PLUS™ ciNPWT dressing for midline laparotomy wounds in high risk gynaecological oncology patients. A Randomised Controlled Trial will be required to assess the ciNPWT dressing benefit before justifying its use in extended midline incisions for gynaecological cancer surgeries.

P-88

Image guidance technology – where should it be used in gynaecology oncology?

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The use of image guidance systems (IGS) in surgery is increasing, overall improving surgical safety and accuracy. Utilising eye metrics, this study explored the type of surgical cases in which IGS may benefit the surgeon by improving their awareness, reducing workload and improving clinical decision making.

Twenty gynaecology-oncology surgeons were presented with five cases representing a spectrum of complexity: ovarian cancer - high peritoneal cancer index(PCI); ovarian cancer - low PCI; endometrial cancer - enlarged pelvic/para-aortic nodes; vulval cancer - enlarged inguinal nodes and S1G1 endometrial cancer requiring a hysterectomy. For each case surgeons were randomised to view either the standard CT/MRI tomographic (STI) or IGS images initially, before viewing the case in the alternative modality. Each case had an accompanying vignette and relevant clinical questions to answer. For all ten cases surgeons wore eye-tracking glasses, answered clinical questions and completed a Subjective Mental Effort Questionnaire (SMEQ).

For the least complex case (S1G1 endometrial cancer) clinical decision-making and workload were not significantly different between IGS and SGI. As the complexity of the cases increased, those using the IGS were more accurate in identifying the affected/involved anatomy whilst simultaneously experiencing a reduction in perceived mental workload ($p<0.0001$). Across all cases, eye metrics revealed participants using the STI compared to the IGS needed more fixations, which were longer in duration for both individual ($p=0.02$) and total time, had greater pupil entropy ($p=0.03$) and reduced rate of pupil change ($p<0.0001$). Longer dwell time when viewing STI compared to IGS images indicated a reduced cognitive load.

This study demonstrates that IGS improves the surgeon's clinical understanding and accuracy whilst reducing their mental workload. However it is not beneficial for all cases and must be used judiciously to avoid over burdening the surgeon.

P-89

The Use of Endometrial Thickness to Identify Undetected Uterine Polyps in Post-Menopausal Bleeding

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Aims

1. Calculate the diagnostic accuracy of Transvaginal Ultrasound (TVUS) to detect polyps in endometrial ca cases
2. Establish whether an endometrial thickness (ET) of 10mm is suggestive of the presence of an polyp on hysteroscopy

Background

Endometrial biopsy is the current diagnostic tool for detecting endometrial cancer. TVUS to measure ET can be reliably used to identify those requiring endometrial sampling. However, a blind biopsy is associated with a higher false negative rate when the pathology is focal (sensitivity of 87.5% compared to 10%).
BGCS guidelines suggest that evidence of ultrasound irregularities on TVUS should prompt hysteroscopic assessment. However TVUS is reported to have a poor polyp detection rate compared with hysteroscopy.

Can ET be used as a predictor for the presence of polyps and further identify which women should be receiving hysteroscopy as opposed to blind biopsy?

Methods

Data for all confirmed endometrial cancer cases over a three year period in Doncaster and Bassetlaw Teaching Hospital Trust was collected retrospectively for: ET (mm), suspicion of polyp on TVUS, hysteroscopy, and presence of polyp on hysteroscopy. Statistical analysis performed with groups stratified as 3-10mm and >10mm.

Results

103 cases evaluated by USS and hysteroscopy. The true prevalence of polyps on hysteroscopy in cohort was 65.05%. When using USS as a diagnostic predictor of polyp on hysteroscopy, sensitivity = 23.9% and specificity = 86.1%.

There was no significant difference between the groups in the detection of polyp on USS. However, the likelihood of polyps being present on hysteroscopy was significantly higher in >10mm group ($p<0.003$).

Conclusions

In the suspicion of endometrial cancer, patients with an ET of >10mm should receive hysteroscopy and targeted biopsy due to the increased risk of focal pathology.

P-90

Fibrothecomas Masquerading as Ovarian Malignancy; A Review of Pre-Operative Imaging

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Aims

A retrospective review correlating radiological diagnosis with final histological diagnosis of fibrothecoma.

Background

Ovarian fibrothecomas are the most common benign solid ovarian tumour, accounting for approximately 4-5% of all ovarian tumours. Imaging can aid diagnosis of fibrothecoma pre-operatively, with its correct interpretation reducing radiological misdiagnosis as an ovarian malignancy. This could decrease physical, psychological, and social costs of placing patients on the cancer pathway unnecessarily.

Methods

Over a six-year period from 2013 to 2018, we identified patients with a radiological/histological diagnosis of fibrothecoma from the radiology and histology databases, and multi-disciplinary team (MDT) notes at a Cancer Unit and Centre. Pre-operative imaging, MDT outcomes, operative notes, use of frozen section, and final histology were analysed.

Results

660 patients with suspicious adnexal masses were discussed at the MDT over the six-year period, of which 31 patients had fibrothecoma. Of this group, the median age was 65 (range 29-88), and 27/31(87%) post-menopausal. CA125 was documented in over 90% (28/31), with a risk of malignancy index (RMI) >250 in 42% (13/31). 7 patients (23%) underwent one imaging modality (ultrasound, CT, or MRI), 17(55%) had two modalities, and 7 patients (23%) had all three. In those who underwent ultrasound imaging (19/31(86%)),26% had a documented U-score. Imaging reports suggested fibrothecoma in 24% (9/31), and 56% (5/9) of these underwent surgery. All 31 patients were discussed at the MDT, and 65% (20/31) underwent surgery at the Cancer Centre, all requiring frozen section. The operative morbidity rate was 33%, and median length of hospital stay 3 days (range 1-10).

Conclusions

This study highlights that we can improve the pre-diagnostic pathway for our patients and avoid unnecessary surgery. We endeavor to achieve this through the implementation of standardized radiological reporting for suspected fibrothecoma.

P-91
Thrombocytosis is of diagnostic significance in ovarian cancer

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Aims
To investigate the diagnostic significance and predictive impact of thrombocytosis in women with suspected or confirmed ovarian cancer.

Background
Ovarian cancer is a lethal gynaecological malignancy. A major challenge of ovarian cancer is late presentation, owing to non-specific symptoms in early stages. Although CA-125 is commonly measured in women with adnexal mass, it is estimated that it only has a positive predictive value (PPV) of 69% and a negative predictive value (NPV) of 88% for detection of ovarian cancer.

Methods
This was a retrospective study of women who had surgery for adnexal mass over a 48-month period between September 2014 and September 2018 at Swansea Gynaecological Oncology Centre in Wales, UK.

Results
A total of 294 women who underwent surgery for high-risk pelvic mass or biopsy-confirmed ovarian cancer were identified. 206 women (70%) had final histology confirming ovarian cancer, 54 women (18%) had benign tumours while 34 women (12%) had borderline tumours. The mean age of women diagnosed with ovarian cancer was 63.62 years (30 – 83 years). 90 of the 206 women (43.7%) with ovarian cancer had thrombocytosis prior to primary surgery or neoadjuvant chemotherapy (NACT) compared to 8/54 (14.8%) for benign tumours and 4/34 (11.8%) for borderline tumours. The PPV of thrombocytosis for detection of malignancy was estimated at 93% while the NPV was 29%. There were more women between 40 years and 60 years with thrombocytosis who were diagnosed with ovarian cancer compared to women that did not have thrombocytosis (0.041). Thrombocytosis was strongly associated with advanced stage (Stage III/IV) (p=0.002). However, thrombocytosis was also seen in Stage I (10/43 women) and Stage II (6/15 women).

Conclusions
Thrombocytosis is of diagnostic significance in ovarian cancer. This is particularly of relevance in primary care settings where these women often first present and in incidental finding of adnexal mass during physical examination or radiological investigations.

P-92

c-Myc influences paclitaxel response in epithelial ovarian cancer and acts as a key regulator of mitotic cell fate

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Aims

To investigate the effect of altered c-Myc expression in the response of epithelial ovarian cancer (EOC) cells to paclitaxel.

Background

The mortality rate in EOC remains high and development of resistance to chemotherapy with carboplatin and paclitaxel is common, but the underlying mechanisms remain poorly understood. Paclitaxel causes cells to arrest in mitosis and several proteins, including c-Myc, have been shown to influence subsequent cell fate in breast cancer cells. However, determinants of cell fate in EOC remain poorly characterised.

Methods

c-Myc expression following paclitaxel was investigated by Western blot and live cell imaging in HeLa, A2780 and A1847 cell lines. Cell fate following paclitaxel arrest was determined by live cell imaging with siRNA-mediated knockdown and over-expression. Chemosensitivity was assessed using CellTitre-Glo□. Immunohistochemistry was undertaken on an EOC tissue microarray. c-Myc protein expression from Reverse Phase Protein Array assays were compared in The Cancer Genome Atlas (TCGA) dataset for serous ovarian adenocarcinoma (Wilcoxon rank-sum test), and in paired drug-sensitive A2780 and paclitaxel resistant A2780pacR cell lines.

Results

Paclitaxel exposure lead to consistent degradation of c-Myc in each cell line. Altered expression of c-Myc affects the fate of mitotically arrested cells in the HeLa model system and EOC cell lines, with loss of c-Myc promoting cell survival. Increased resistance with loss of c-Myc was also shown in cell viability assays. Variable basal c-Myc expression is seen across the cell lines and an EOC tissue microarray. TCGA tumours with innate chemotherapy resistance showed a significant reduction in c-Myc protein expression ($p=0.0447$). This was also seen in A2780pacR cells with acquired paclitaxel resistance, when compared to their paclitaxel-sensitive parental A2780 cell line (1.28 fold-change).

Conclusions

EOCs show variable expression of c-Myc and reduced expression leads to increased cell survival and chemotherapy resistance. This suggests that c-Myc shows promise as a predictive biomarker to guide treatment in EOC.

P-93

Developing an Ovarian Cancer Multispectral Immunofluorescent Profile DNA Damage Response Biomarker: Is the Diagnostic Laboratory Ready?

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Aims

1. Quantify DNA damage response (DDR) proteins in FFPE tissue individually using (a) IHC and (b) multiplexed with immunofluorescence microscopy
1) Correlate results with functional HRR status in corresponding live cultures.

Background

Poly(ADP-ribose) polymerase inhibitors (PARPi) have been shown to target epithelial ovarian cancers (EOC) defective in homologous recombination repair (HRR), a DNA damage repair (DDR) pathway. A biomarker of HRD applicable to the diagnostic FFPE material would be useful to expand PARPi therapy to non-BRCA, non-platinum sensitive EOC.

Methods

EOC samples were collected from consented patients undergoing surgery (REC 12/NW/0202). Resulting cultures were characterised for HRR function by the ability to form RAD51 foci. Tissue microarrays (TMAs) were generated from 1mm cores of corresponding FFPE material.

An antibody panel was used to quantify key HRR and DDR proteins (CHK1, DNA-PKcs, PAR, PARP-1, RAD51, and 8-oxoguanine), using manual IHC, automated IHC (Ventana) and multispectral immunofluorescent microscopy (Vectra®).

Results

68 live ovarian cancer cultures were generated from 25 EOC patients. 36(52.9%) were HRR deficient (HRD) with <2-fold increase in RAD51 foci in response to DNA damage.

T

MA cores showed variable expression of each DDR antigen (H scores of 0 – 24). There was no correlation between individual IHC-detected antigen expression and HRR function (p=0.13).

Automated IHC using diagnostic Ventana technology was not reproducible for nuclear DDR antigens preventing accurate reliable nuclear clustering using Vectra multiplexed immunofluorescent system.

Conclusions

Protein quantification of key proteins in DDR pathways are not predictive of HRR function when assessed in isolation or combination. FFPE-based protein biomarkers cannot replace.

P-94

Incorporating Tumour Biology into Follow-up Strategies in Ovarian Cancer: Can Tumour CA125 Status Dictate Utility of Serum CA125 in the Detection of Recurrence?

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Aims
The aim of this study was to investigate the predictive value of sCA125 at recurrence stratified by tumour CA125 (tCA125) status at diagnosis, determined by immunohistochemistry.

Background
Historically, patients treated for epithelial ovarian cancer (EOC) undergo long-term hospital-based follow-up with serial serum CA125 (sCA125) measurement. It is however unclear whether earlier detection of recurrence through sCA125 monitoring alters survival. This uncertainty is reflected in the variances in FU practices.

Methods
All patients diagnosed with EOC at the NGOC 2012-2013 were identified from prospectively maintained data. Demographic and clinico-pathological details, including 5-year survival were collated. Correlation and survival analysis were undertaken stratified by tCA125 status.

Results
207 patients with available tCA125 underwent treatment for EOC. 176 were FIGO stage IIIC or IV and 184 were high grade serous cancers. Median sCA125 in the tCA125 positive group was 761 iu/L and in the tCA125 negative group was 151 iu/L (*p=0.01*). The median follow-up period was 32 months in which time 181 (87%) developed recurrent disease. sCA125 was elevated (≥twice normal value) at relapse in 131/160 (82%) tCA125-positive group and in 4/21 (19%) tCA125-negative group. Median sCA125 at recurrence was 436 iu/L in the tCA125-positive subgroup in comparison to only 23 iu/L in the tCA125-negative group (p=0.28).

Conclusions
The movement towards precision medicine with treatment pathways dictated by tumour biology is upon us and the utility of tumour biology in the diagnosis of recurrence should not be overlooked. A prospective study powered to include proportional representation of tCA125-negative patients may be justified given the substantial differences in the values demonstrated in this study.

P-95

Detection of MCM5 As A Novel Non-Invasive Aid For The Diagnosis Of Endometrial And Ovarian Tumours

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Aims

To determine the sensitivity of MCM5 as a biomarker for the detection of endometrial and ovarian cancer

Background

MCM5 is a protein involved in DNA replication, facilitating cell proliferation. In normal epithelium MCM5 expression is restricted to cells in the basal proliferative compartments, in the presence of a tumour MCM5 positive cells are present at the surface epithelium and are shed into bodily fluids.

Methods

Patients with known ovarian or endometrial cancers, or known benign gynaecological conditions, were enrolled. Informed consent was obtained prior to the collection of full void urine and a vaginal tampon (worn for 6-8 hours). Vaginal secretions were extracted from the tampon, centrifuged and lysed. Urine samples were centrifuged and lysed. MCM5 levels were determined by MCM5-ELISA (Arquer Diagnostics Ltd)

Results

Out of 87 patients enrolled, all provided urine samples (U) and 53 provided tampons (T). 36 patients had endometrial cancer (18T), 20 ovarian cancer (7T) and 31 benign controls (28T). MCM5 was detected in the urine of 31/36 endometrial cancers, giving a sensitivity of 86.1% (95%-CI 70.5%-95.3%), whilst MCM5 was detected in the urine of 13/20 ovarian cancers cases, (sensitivity of 65% (95%-CI 40.8%-84.6%)). Only 6/31 patients with benign conditions had detectable MCM5, giving a specificity of 80.7% (95%-CI 62.5%-92.6%), with the area under the ROC curves being 0.83 and 0.74 for endometrial and ovarian cancers respectively. Whilst MCM5 was detectable in tampons from all 18 endometrial cancers and 6/7 ovarian cancers, specificity was poor at 32% (19/28). This may be due to the tampon causing trauma to the vaginal mucosa, thus exposing basal cells that normally express MCM5

Conclusions

MCM5 is a novel sensitive and specific biomarker for the detection of ovarian and endometrial tumours in urine samples, further studies to determine the performance of this marker in prospective blinded studies are required.

P-96

WITHDRAWN

P-97

Non-surgical management of malignant bowel obstruction in patients with advanced ovarian cancer -A meta-analysis of published literature

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Title: Non-surgical management of malignant bowel obstruction in patients with advanced ovarian cancer -A meta-analysis of published literature

Aims

To perform a meta-analysis of published literature and assess the effectiveness of non-surgical management of malignant bowel obstruction (MBO) in women suffering from ovarian cancer, in terms of improving quality of life and extending the median survival.

Background

Malignant bowel obstruction is a common occurrence in patients with advanced ovarian cancer. Bowel obstruction is frequently the terminal event in the course of the malignant disease and few treatment options make a significant impact at this stage. The optimal management of MBO in these patients is controversial and there is a lack of consensus how best to manage this condition

Methods

We searched PubMed database and Scopus preview database for studies involving non-surgical interventions to manage MBO in women diagnosed with ovarian cancer, whose bowel obstruction was inoperable or who choose not to undergo surgery. All levels of evidence – randomised, prospective and retrospective cohort studies – were eligible for the review, except for case-series and case control studies. The results from all studies were extracted and systematically analysed using a meta-analysis OpenMeta software.

Results

In total, out of 221 studies only 15 studies fulfilled the inclusion criteria recruiting 1445 patients. 15 studies were included in the systematic review, whereas only 10 were used for the meta-analysis. Two types of meta-analysis have been performed based on two different outcomes: median survival and the time needed to achieve symptoms control. The first meta-analysis revealed an Overall Survival of 38.04 days (95% CI 35.24–40.85 days, P<0.001). The second meta-analysis revealed that 3.05 days were needed for symptoms to be relieved (95% CI 1.07-5.04, P=1.000).

Conclusions

MBO obstruction is a condition with very poor prognosis. A non-surgical management approach can offer good symptom control but results in a poor survival. Further research to establish optimal management of this condition is urgently required.

P-98

Diagnostic and Management dilemma in a Vaginal Epithelioid Leiomyoma – an extremely rare clinical entity

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Introduction

Epithelioid leiomyomas have been well-studied in the gastrointestinal tract and its presence in the female genital tract is extremely rare. Epithelioid leiomyomas include leiomyoblastoma, clear cell and plexiform leiomyoma. Consensus is lacking on their differentiating features and malignant potential.

Case

A 48-year-old P2 lady with BMI 50 presented to Emergency Department with a 3-week history of vaginal bleeding and passing grape-like products vaginally. Clinical examination elicited a cystic lesion measuring 2cm in diameter on the anterior vaginal wall that was also noted on pelvic TAS. Histology of the tissues passed vaginally suggested microscopic features of malignancy, suggestive of Embryonal rhabdomyosarcoma. Her case was discussed at the regional Sarcoma MDT. MRI showed a 2.3cm hypo-intense vaginal mass with no evidence of fat-stranding or lymphadenopathy and CT scan ruled out metastatic disease. Although the morphological features mimicked sarcoma with strong expression of muscle-related antigens, immunophenotyping did not support malignancy and confirmed a cellular epithelioid leiomyoma. Due to the diagnostic complexity, excisional biopsy and hysteroscopy were decided for. The entire tumour was excised through transvaginal route with hydro-dissection of its planes and enucleation of its capsule, leaving clear margins around. Hysteroscopic findings were normal. Tumour biopsy showed a lack of necrosis or mitotic activity, excluding neoplastic processes and confirmed the diagnosis of an epithelioid vaginal wall leiomyoma. MDT recommended close post-operative surveillance.

Discussion

Wherever possible TVS is superior to TAS for vaginal lesions. MRI is excellent in tissue characterisation of the lesion and essential to evaluate relation / invasion to adjacent structures. Histological confirmation remains the gold standard for diagnosis. Tumour recurrence or rapid enlargement along with microscopic features of >5 mitoses/10 HPF with atypia suggests sarcomatous change and removal en-bloc is recommended.

Conclusion

Sarcomatous transformation and recurrence after 11 months and 10 years have been reported, hence close surveillance is essential.

P-99

Sampling of endometrium using pipelle: evaluation of effectiveness of endometrial sampling with pipelle compared to other technologies in pre- and postmenopausal women.

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Aims

The aim of the study was to evaluate the effectiveness of pipelle endometrial biopsy in pre- and postmenopausal women compared to curettage and MyoSure directed biopsy; to record the number of repeated biopsies required to establish a diagnosis.

Background

Pipelle endometrial sampling is common; however, can provide insufficient material for histological examination, so requires patients to undergo repeat biopsy to gain a diagnosis.

Methods

A retrospective cohort study was performed evaluating endometrial biopsy samples from histological electronic records to confirm the nature of the sampling technique and number of procedures following pipelle sampling, either reported sufficient or insufficient, in pre- and postmenopausal women.

Results

Premenopausal group (n=283): 7.8% of pipelles were reported as insufficient for diagnosis; 92.2% of patients had a single pipelle reported for a diagnosis, of these who had an initial pipelle 18.8% had a further curettage biopsy, 6.1% a directed biopsy, 17.6% another pipelle, 57.5% had no repeated procedures.

Postmenopausal group (n=129): 21.7% of pipelles were reported as insufficient for diagnosis; 78.3% of pipelle biopsies were sufficient for diagnosis, 9.9% had an initial pipelle followed by curettage, 19.8% by directed biopsy, 7.9% by pipelle, 62.4% had no repeated procedures.

3.9% and 21.4% of repeated curettage were insufficient in pre- and postmenopausal groups respectively. Directed biopsies always provided sufficient material for diagnosis.

Conclusions

Pipelle provided more insufficient biopsies in postmenopausal group. In both groups, a high number of repeated biopsies were required, which could have been avoided if directed biopsy had been used. Curettage is mainly used with general anaesthetic, but can be replaced by the MyoSure directed biopsy, which can be done in an ambulatory clinic. This is more cost effective, the amount of biopsy tissue is superior and is reliably taken from areas of abnormality. Furthermore, polyps and other pathologies can be resected in a single procedure.

P-100

Vulval Squamous Cell Carcinoma: Incidence and Risk of Recurrence in patients with Lichen Sclerosus

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Aims

To determine the risk and recurrence of vulval squamous cell carcinoma (VSCC) in a large cohort of patients with vulval lichen sclerosus (VLS)

Background

Lichen Sclerosus (LS) is an inflammatory dermatosis most commonly affecting the anogenital region in post-menopausal women. VLS is characterised by ivory-white atrophic plaques, causing intractable pruritus, soreness and discomfort. Local histoarchitectural damage and scarring resulting in introital constriction, may cause dyspareunia, dysuria and dyschezia. Women with VLS are also at increased risk of developing VSCC, although this risk is debated in the literature with suggested risk of <1-5%. An amalgamation of small heterogenous studies, and the lack of histopathological confirmation of LS within these studies suggests that this approximation of risk may be inaccurate.

Methods

A retrospective cohort study examining the histopathological reports and clinical records of 762 women with VLS from 1993 to 2018, was conducted in St James's University Hospital, Leeds, and Bradford Royal Infirmary. Incidence and recurrence rate of VSCC were the two primary measures of interest.

Results

88 (11.5%) of women with VLS developed VSCC, 48 (55%) of which developed a recurrence of VSCC post-intended curative surgery.

Conclusions

The risk of VSCC in patients with a background of VLS was found to be greater than currently suggested in the literature. The rate of recurrence of VSCC was also higher than the 12-50% found by previous studies. These findings indicate that the true risk of malignant transformation of VLS to VSCC may be significantly underestimated. Thus, patients with VLS should be more closely monitored and more aggressively treated to prevent the development of VSCC. Further work will assess the impact of VSCC stage, grade, age at diagnosis, recurrence interval and HPV status in this cohort

P-101

Evaluation of stem cell markers EZH2 and ALDH in ovarian serous tumors

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Aims

To explore the role of stem-cell markers EZH2 and ALDH in ovarian serous carcinomas as potential prognostic markers and therapeutic targets.

Background

Despite recent therapeutic advances, tumor recurrence is a major cause of poor survival of ovarian cancer patients. Recently, research has focused on the stem-cell-like properties of ovarian cancer cells that drive tumor formation and recurrence after therapies. Enhancer of zeste homolog 2(EZH2) has a critical function in cancer-stem-cell expansion and maintenance. Aldehyde dehydrogenase (ALDH) has been successfully used to identify cell populations with cancer-stem-cell properties in several tumors.

Methods

The expression of EZH2 and ALDH was examined in 10 primary low-grade, 34 primary high-grade, and 12 relapsed high-grade ovarian serous carcinomas by immunohistochemistry. Nuclear staining was evaluated for both markers and cytoplasmic was additionally evaluated for ALDH. Staining intensity (1-3) was multiplied by the % of positive cancer cells for EZH2 and an HSCORE was reported for each case. ALDH expression was also evaluated in stromal cells and a three-tiered-scoring system (low-intermediate-high) was applied.

Results

Epithelial EZH2 expression was significantly increased and epithelial cytoplasmic ALDH expression was marginally enhanced in high-grade carcinomas compared to low-grade ones (mean HSCORE 31,4vs.9,5, p=0.001 and mean score 22,96vs.12,5, p=0.098, respectively). Nuclear ALDH expression was not significantly different between low and high-grade tumors. Stromal ALDH expression was higher in low-grade carcinomas compared to high-grade tumors (p=0.014). Relapsed tumors didn't show any statistically important difference compared to their primaries regarding the expression of the markers tested. No clinicopathological correlations were shown.

Conclusions

Increased epithelial EZH2 and ALDH expression and loss of stromal ALDH expression are involved in the pathogenesis of high-grade ovarian serous carcinomas. Based on this preliminary data further analysis of both markers is justified in ovarian carcinomas.

P-102

ErbB receptors status in type II endometrial cancer, is it really important?

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Aims

The main aim of our study was to investigate the importance of ErbB receptors status in patients with type II endometrial cancer.

Background

ErbB receptors are trans-membrane glycoproteins with tyrosine kinase activity. Especially in cancer, they implicated in cell proliferation, transformation, angiogenesis, migration and invasion. The expression of ErbB receptors, has not studied well in endometrial cancer patients.

Methods

We evaluated retrospectively tissue specimens from 10 patients with type II endometrial cancer, that have been treated in the Division of Gynaecological Oncology of the University of Patras. For ErbB receptors immunostaining, we used: anti-EGFR polyclonal antibody sc-03 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:20, anti-ErbB-2 monoclonal antibody CB11 (BioGenex Laboratories Inc., San Ramon, CA, USA) in a dilution 1:100, anti-ErbB-3 polyclonal antibody sc-285 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:100 and anti-ErbB-4 polyclonal antibody sc-283 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:200.

Results

For EGFR receptor 5 cases were positive (50%) and 5 cases were negative (50%), while for ErbB-2 receptor 9 cases were positive (90%) and 1 case was negative (10%). For ErbB-3 receptor all cases were positive (100%), while for ErbB-4 receptor 7 cases were positive (70%) and 3 cases were negative (30%).

Overall, we had high expression levels of all ErbB receptors in our study population and 5 patients were positive (50%) for all ErbB receptors.

Conclusions

The high expression levels of ErbB receptors in patients with type II endometrial cancer possibly indicates a future role of ErbB-targeted therapies in well-defined subgroups of type II endometrial cancer patients with EGFR and ErbB-2 overexpression.

P-103

Is there any role for ErbB receptors profiling in unselected patients with endometrial cancer?

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Aims

The main aim of our study was to investigate ErbB receptors profile in unselected patients with endometrial cancer.

Background

ErbB receptors are trans-membrane glycoproteins with tyrosine kinase activity. Especially in cancer, they implicated in cell proliferation, transformation, angiogenesis, migration and invasion. The expression of ErbB receptors, has not studied well in endometrial cancer patients.

Methods

We evaluated retrospectively tissue specimens from 93 patients with endometrial cancer, that have been treated in the Division of Gynaecological Oncology of the University of Patras. For ErbB receptors immunostaining, we used: anti-EGFR polyclonal antibody sc-03 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:20, anti-ErbB-2 monoclonal antibody CB11 (BioGenex Laboratories Inc., San Ramon, CA, USA) in a dilution 1:100, anti-ErbB-3 polyclonal antibody sc-285 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:100 and anti-ErbB-4 polyclonal antibody sc-283 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:200.

Results

For EGFR receptor 53 cases were positive (57%) and 40 were negative (43%), while for ErbB-2 receptor 61 cases were positive (65.6%) and 32 were negative (34.4%). For ErbB-3 receptor 66 cases were positive (71%) and 27 were negative (29%), while for ErbB-4 receptor 72 cases were positive (77.4%) and 21 were negative (22.6%).

There were some differences regarding ErbB receptors profile, especially among different histologic subtypes of endometrial cancer. However, all those differences were not statistically significant mainly because of the small number of cases with papillary serous or clear cell histology.

Conclusions

ErbB receptors profile, should be evaluated separately in patients with type I and type II endometrial cancer. This is mainly based on the fact that those types of endometrial cancer have different pathophysiology and clinical behavior.

P-104

Are there any differences in ErbB receptors status among young patients with CIN 3 and cervical cancer?

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Aims

The main aim of our study was the investigation of any potential differences in ErbB receptors status among young patients with CIN 3 and cervical cancer.

Background

ErbB receptors are trans-membrane glycoproteins with tyrosine kinase activity. Especially in cancer, they implicated in cell proliferation, transformation, angiogenesis, migration and invasion. The expression of ErbB receptors, has not studied well in patients with CIN 3 and cervical cancer.

Methods

We evaluated retrospectively tissue specimens from 75 patients with CIN 3 and cervical cancer, that have been treated in the Division of Gynaecological Oncology of the University of Patras. For ErbB receptors immunostaining, we used: anti-EGFR polyclonal antibody sc-03 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:20, anti-ErbB-2 monoclonal antibody CB11 (BioGenex Laboratories Inc., San Ramon, CA, USA) in a dilution 1:100, anti-ErbB-3 polyclonal antibody sc-285 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:100 and anti-ErbB-4 polyclonal antibody sc-283 (Santa Cruz Biotechnology Inc., Santa Cruz, CA, USA) in a dilution 1:200.

Results

For ErbB-2 receptor, 8 cases were positive (10.7%) and 67 cases were negative (89.3%). For ErbB-3 receptor, 24 cases were positive (32%) and 51 cases were negative (68%). For ErbB-4 receptor, 37 cases were positive (49.3%) and 38 cases were negative (50.7%).

Moreover, we found a statistically significant correlation between ErbB-2 expression and invasive cervical cancer.

Conclusions

All these differences in ErbB receptors status among young patients with CIN 3 and cervical cancer could be possibly related with well-known alterations in the clinical behavior of both entities. In this perspective, future studies are needed in order to elucidate the clinical role ErbB receptors status in patients with CIN 3 and cervical cancer.

P-105

The utility of Hepatocyte Nuclear Factor-1 beta in differentiating classical Endometrial Clear Cell Carcinoma from clear cell mimicry: consequences for future targeted therapeutics

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Aims

Evaluate the utility of HNF-1β overexpression (transcription factor):

- as a diagnostic marker in a panel of IHC markers
- as a prognostic marker.

Background

Endometrial clear cell carcinoma (ECCC) is rare and carries poor prognosis. Data regarding underlying biology is contradictory, reflecting difficulty in accurately assigning histological subtype. Morphology alone is insufficient and IHC is a vital diagnostic adjunct. Hepatocyte nuclear factor-1β (HNF-1β) is established in the diagnosis of ovarian CCC but its utility in ECCC diagnosis is unknown.

Methods

Fifty endometrial cancer cases with classical or mixed clear cell histology underwent blinded morphological review for assignment of subtype by 2 histopathologists. Additional tissue sections underwent IHC and a 4-tiered H-score was used to quantify antigen expression of ER, WT-1, p53, AMACR, Napsin-A, HNF-1β, alongside controls. Results were analysed stratified by assigned subtype.

Results

9(18%) were confirmed as classical ECCC with one additional case re-classified as classical ECCC. 17(34%) initially reported as ECCC were re-classified as CC mimicry. Inter-observer agreement was 94%. HNF-1β was expressed in all ECCC with OR 16.7, $p<0.001$. Expression (>25%) of AMACR was seen in 20% and Napsin-A in 70%. WT1 and p53 (WT) were universally negative in all ECCC. HNF-1β (>25%) positivity with WT p53 was seen in 6 CC mimicry cases.

Median overall survival in the HNF-1β subgroup was 9.5 months vs 10 months in HNF-1β negative subgroup, $p=0.35$, with median FU 47 months.

Conclusion

HNF-1β is a sensitive indicator for ECCC and when interpreted within an extended IHC panel sensitivity and specificity are high. Accurate histotyping with IHC diagnostic adjuncts is essential if future anti-cancer therapies will be stratified by histological subtype. Work continues to correlate IHC markers with ECCC genomics.

P-106

Chemotherapy response score predicts surgical outcome and prognosis in tubo-ovarian cancer

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Aims

To assess whether chemotherapy response score (CRS) is associated with surgical end result in interval debulking surgery (IDS) for tubo-ovarian cancer patients. Secondary objectives were to determine prognostic significance of CRS in this group of patients.

Background

Bohm's 3 tier CRS is a histopathological score for assessing tumour regression in omentectomy specimens after neoadjuvant chemotherapy (NACT), and he concluded that prognostically, CRS is more important than completeness of cytoreduction (CC) in IDS. This has not been proved by other validation studies. There is a conflict in evidence regarding significance of improvement of overall survival (OS) with CRS-3 in available literature. Evidence of association of CRS with radiological and biochemical (CA-125 decline) response is lacking and conflicting.

Methods

Patients who underwent IDS between 2010 and 2017 at NGOC were retrospectively analysed. Omental disease was scored by pathologists as per CRS reporting system described by Bohm. Surgical end result and clinico-pathological data was collected and correlated with CRS. Recurrence was assessed radiologically, OS and progression free survival (PFS) calculated in the 3 histopathological sub-groups and compared with clinical variables using Cox proportional hazard model and log-rank test.

Results: Among 201 patients who underwent IDS and were included, 82 patients had minimal response (CRS-1),65 moderate (CRS-2) and 54 had excellent response (CRS-3).77 patients (38%) had CC and 100 patients had optimal cytoreduction. There was an association between CC and CRS-3($p<0.0001$), also after adjusting for stage (stage IV B-2 sided p: 0.02).

Significant increase in PFS in patients with CRS 3 vs CRS1+2 (χ^2:41.75,HR:2.8, $p<0.0001$) as well as in OS(HR:2.6, $p<0.0001$). CRS is an independent prognostic factor, along with CC after IDS (higher regression coefficient with CRS).

Biochemical response (CA-125 decline after NACT) and radiological response were predictors of chemotherapy response.

Conclusion: CRS is the most important independent prognostic factor after IDS, and a post NACT pre-IDS omental biopsy may help predict completeness of surgery and overall good prognosis.

P-107

A two for one offer! Case report on sacrococcygeal teratoma in an adult containing a mucinous adenocarcinoma

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A 44-year-old woman presented to the orthopaedic surgeons with a lump over her sacrum. She was experiencing back pain, constipation and recent weight loss. MRI showed 15cm pre sacral mass displacing the rectosigmoid junction whilst being inseparable from S4 to coccyx. No metastases were identified on CT CAP.

Gynaecological oncologists and orthopaedics provided joint care. She was counselled preoperatively regarding the risk of parasympathetic nerve damage and neurological sequelae affecting the bladder and bowel. The patient was operated in the prone position. An elliptical incision allowed a tissue plane over the cyst to be developed. The lower part of the coccyx and sacrum were removed. The cyst was dissected away from the anal sphincter and rectal serosa, both of which remained intact. The woman made an uneventful postoperative recovery with no neurological deficit. Histology showed a moderately differentiated intestinal type mucinous adenocarcinoma arising within a mature cystic teratoma. The possibility of metastasis from the gastrointestinal tract was excluded clinically with colonoscopy. MDT advised annual colonoscopic surveillance.

Sacrococcygeal tumour (SCT) are one of the commonest neoplasms in neonates with an incidence of 1 in 40,000 live births. In adults it is a rare tumour, tending to occur in the pelvis opposed to externally, which is more common in neonates. The majority are cystic in nature with approximately 1-2% being malignant. Treatment is surgical with removal of the coccyx allowing better clearance and reducing the risk of recurrence. βHCG and αFP can help differentiate between immature and mature teratomas. Malignant transformation within SCTs is exceptionally rare, with only a few case reports noted.

This case emphasises the importance of treating beyond the presenting complaint, value of sharing expertise and care and highlights successful management of a rare condition.

P-108

A survey to investigate current local practice in the UK for testing of hormone receptors in Uterine Leiomyosarcoma (ULMS) /Endometrial Stromal Sarcoma (ESS)

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Aims

The aim of the survey was to document variation of hormone receptor testing in the UK in UMLS and ESS and the influence of hormone status on prescribing HRT. Results of the survey may provide information for further discussion and provide potential research opportunity.

Background

Sarcoma UK provides a support line run by specialist nurses and an occupational therapist. In 2018 a caller asked whether ULMS should be routinely tested for hormone receptors, and if the tumour was then found to be ER/PR negative, if HRT would be a possibility. In trying to answer this we realised there was a difference in practice taking place across the country.

Methods

In collaboration with the NCRI Sarcoma Clinical Studies Group (CSG), and input from the NCRI Gynae CSG, we compiled a short questionnaire to investigate testing in ULMS and ESS. This was then sent out via the NCRI CSG groups, BSG, NSF and SAG chairs.

Results

23 individuals responded nationally most answering for the MDT.
35% of respondents were from a local gynae MDT, 39% sarcoma MDT.
48% of respondents tested ULMS for ER/PR status at diagnosis, and 48% for ESS at diagnosis.
35% would consider HRT for pre-menopausal with ULMS, who are hormone receptor negative, 13% for those hormone receptor positive.
30% would consider HRT for pre-menopausal with ESS, who are hormone receptor negative, 9% would consider it hormone receptor positive patients.

Conclusions

The results suggest that there are differences in practice for hormone receptor testing and the prescribing of HRT. We hope that the results of this survey may stimulate debate, help to form consensus and provide an opportunity for collaborative working.

P-109
Diffuse large B-cell lymphoma (DLBCL) of the cervix: a case presentation and literature review

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Aims
To discuss diagnosis and management of a comparatively rare cervical pathology

Background
Case history
A previously fit 53-year-old nulliparous woman presented acutely with lower back pain and malaise. She was admitted with acute renal failure. USS KUB confirmed bilateral hydronephrosis and bilateral ureteric stents were inserted.

CT and MRI pelvis revealed a large cervical mass with extensive parametrial involvement and bilateral pelvic, left inguinal and retroperitoneal lymphadenopathy. Her presumed diagnosis was cervical cancer. An enlarged, inflamed looking cervix was noted on examination. Her cervical smears were normal and up to date.
Cervical loop biopsy confirmed DLBCL. After 6 cycles of chemotherapy, imaging confirmed a good response. Her creatinine levels normalised and the ureteric stents were removed. This is her fifth year of remission.

Methods
Review of hospital notes and subsequent search of Pubmed database.

Results
Literature review revealed no large series of cervical primary lesions thus information below is based on review articles covering primary B-cell lymphoma and case reports of cervical disease.

Primary genital tract non-Hodgkin lymphoma (NHL) is rare and accounts for less than 1% of all extra-nodal NHL disease, of which half is cervical in origin. Of these cervical lymphomas, DLBCL comprises 30% of cases. It affects women from 25-80 years old, though the median age is 44 years. Common presentation includes vaginal bleeding with a bulky cervix but often without lymphoma symptoms. As the abnormality arises from the stroma, diagnosis requires a deep cervical loop biopsy.

Around 70% are diagnosed at Ann Arbor stage 1. Combined immuno-/chemotherapy is the mainstay of treatment, with surgery and radiotherapy in selected cases. Prognosis is generally good but dependent on the stage of disease.

Conclusions
Cervical DLBCL is rare but should be considered in patients with abnormal bleeding and a bulky cervix so that diagnostic loop can be performed.

P-110

Non-cervical cancer presenting via routine cytological smear testing

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Aims

To highlight the role of routine cervical cytology screening in identifying non-cervical genital and primary peritoneal cancers with two case studies

Background

In 2016 the UK National Screening Committee issued a recommendation to change the NHS Cervical Screening Programme to adopt primary HPV testing in place of cytology. Primary HPV screening will be rolled out across England by the end of 2019.

We present two non-cervical cancer cases diagnosed following routine cervical cytology testing which may now be missed by primary HPV testing.

Methods

Two patients with endometrial glandular cells on their routine cervical smear test were referred to the Rapid Access clinic via the National Screening Programme. The outcomes were followed-up using hospital records.

Results

Patient 1 had a normal pelvic USS scan and hysteroscopy. A CT chest/abdomen/pelvis showed disseminated abdominal cancer with peritoneal soft tissue nodularity and liver involvement. Her laparoscopic peritoneal biopsy confirmed stage 3B high-grade papillary carcinoma of peritoneal origin. She received neoadjuvant chemotherapy and interval debulking surgery.

Patient 2 was morbidly obese (BMI=71) with a suspicious pelvic USS scan and hysteroscopy. Her endometrial biopsy confirmed G1 endometrioid adenocarcinoma. She had bariatric surgery prior to a total abdominal hysterectomy and bilateral salpingoophorectomy with panniculectomy.

Conclusions

The role of cervical cytology screening in detecting non-cervical genital and primary peritoneal cancers is rare but well-documented in literature. Glandular cell abnormalities are seen in less than 1% of routine smear tests, with up to 85% of these in some studies indicating a clinically significant finding. Although cervical cytology screening is not intended to detect non-cervical genital/peritoneal cancers, it has the rare advantage over HPV testing for identifying these cancers in asymptomatic women. Clinicians should have a low threshold of suspicion for non-cervical genital and primary peritoneal cancer when assessing a patient with abnormal glandular cells on cervical cytology.

P-111
Icthyosis Uteri - A rare endometrial pathology? Premalignant? Management

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Aims
To present a pathology of Icthyosis uteri in a case of post menopausal bleeding

Background
74 year patient in postmenopausal bleeding clinic on hysteroscopy revealed endometrial fibroid polyp, which on removal and histology showed keratinizing squamous cells suggestive of icthyosis uteri. In view of rarity of condition a multi disciplinary team decision was taken to repeat hysteroscopy, which showed distinct, keratinised areas in endometrium and biopsy showed icthyosis uteri. Considering the unknown malignant potential, rarity of the condition and need for extensive sampling indicated in literature reviews, hysterectomy has been discussed with the patient.

Methods
Retrospective case report

Results
This is one of the rare case reports of Icthyosis uteri with extensive squamous keratinisation detected during hysteroscopy and biopsy and not in a hysterectomy specimen as is commonly reported in literature. The replacement of extensive parts of endometrial lining by stratified squamous epithelium is a rare entity known as ichthyosis uteri. The aetiology of this condition is not clearly understood till date. Association with benign pathologies like uterine squamous papilloma and prolapse have been reported, thus suggesting that it is mostly an incidental finding. There are reports of endometrial squamous cell carcinoma and endometrial adenocarcinoma arising in a background of ichthyosis uteri. Ichthyosis uteri can only be diagnosed incidentally after hysterectomy, as there are generally no presenting complaints. Apart from individual case reports, there is insufficient evidence to suggest that ichthyosis uteri alone have intrinsic neoplastic potential.

Conclusions
Icthyosis uteri is a rare condition usually detected incidentally on hysterectomy specimen. There are reports of association with malignancies and its malignant potential is unknown which necessitates extensive sampling for conclusion. Being a rare condition its follow up is not clearly known.

P-112

Evidence for primary origin of vulvar mucinous adenocarcinoma with features of breast cancer - a case report and literature review

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Background

Current evidence for primary nature of breast-cancer-like adenocarcinoma of the vulva is controversial.

Methods

A case of breast-cancer-like vulvar adenocarcinoma with a 10-year clinical course is presented. Its primary malignancy nature was evaluated by a literature search.

Results

A 66-year old para-3 had a 10-cm irregular tumour, confirmed on an MRI scan, extending from the right labia majora to the anterior anal verge. No source of primary tumours was found on clinical examination, CT and MRI imaging studies, bilateral mammogram, OGD and colonoscopy. A radical vulvectomy and bilateral groin dissections showed clear resection margins and no groin-node metastasis.

The tumour displayed the typical histopathological features of a mucinous primary breast cancer. No in-situ component or breast tissue were seen. The tumour cells were positive for estrogen and progesterone receptors, Ck7 and Ck20, but negative for GCDFP-15, CEA, vimentin, CDX-2 and TTF1.

She declined adjuvant therapy and was free of tumour relapse and new diagnosis of breast or other tumours for the next 5 years. It then relapsed and progressed slowly locally over the following four years and metastasized to the lungs. She died at the end of 10 years following the initial diagnosis. No primary orthotopic breast cancer was ever diagnosed during the 10-year period.

Literature review

Breast-like tissue were not found in the existing (n=23) reported cases of primary-breast-cancer-of-the-vulva. ‘Mammary-like’ glands is a newly recognized component of normal skin anatomy of the ano-genital region. Pathologists have described a variety of benign lesions from these glands, including lactating adenomas, and two case of vulvar ‘ductal carcinoma in-situ’ with no associated invasive cancer have been reported.

Conclusions

The unequivocal primary nature of the current case and published evidence indicate that primary-breast-like-cancer-of-the-vulva is a primary malignant tumour of mammary-like glands.

P-113

Sex-cord stromal tumor in a patient with multiple enchondromatosis (Ollier disease)

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Aims

Sex-cord stromal tumor (SCST) is a rare ovarian neoplasm that was found to develop with multiple enchondromatosis (Ollier's disease). The diagnosis of SCST should be considered when a patient presents with an ovarian mass in the presence of Ollier disease. SCST are rare and account for only 6% of ovarian neoplasms. Ollier disease is a condition that presents in 1 in 100,000 individuals described by multiple enchondromatosis. Rarity of such diseases pose limitation to early diagnosis, management, and subsequently, prevention of complications due to its nature.

Background

Review of literature (PubMed, Cochrane and SEER) account 12 cases of SCST with Ollier disease worldwide. This is the first in the Philippines. A 39 year old, known case of Ollier disease, presented with abnormal uterine bleeding, palpable abdominal mass, and ultrasound finding of an ovarian tumor with characteristics of non-benign nature.

Methods

Ultrasound examination of the left ovary showed it to be cystically enlarged (8x5x8cm), multiloculated with solid structures, and exhibited moderate color flow, scoring 54% likelihood of malignancy based on IOTA LR2 Adnexal Model and 63.8% risk of malignancy based on IOTA adnexal model. The patient, who had previous right oophorectomy, underwent total abdominal hysterectomy, left salpingo-oophorectomy with frozen section, with right salpingectomy, bilateral lymph node dissection, omentectomy and peritoneal fluid cytology.

Results

Frozen section of the left ovary showed sex-cord stromal tumors: Thecoma, and Diffuse Adult Granulosa Cell Tumor, with final histopathology result of Fibrothecoma.

Conclusions

SCST should be highly suspected when dealing with ovarian mass in a patient with Ollier disease. In need of further study are 1) association of Ollier disease and SCST, and 2) understanding the nature of fibrothecomas. Reconsideration of inclusion criteria for these tumors in cancer registries will increase population size, benefiting studies on the incidence, survival rate, recurrences, and best practice management.

P-114

Intravesical sodium hyaluronate for treatment of cystitis & bladder pain in women with pelvic malignancies

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Aims

The aim of our study was to evaluate the usefulness of sodium hyaluronate (Cystistat®) bladder instillations for the treatment of women with symptoms of radiation cystitis after pelvic radiotherapy.

Background

Radiotherapy is commonly indicated in the treatment of gynaecological malignancies. Pelvic radiation can lead to a condition known as radiation cystitis (RC) in at least 5% of women cancer survivors. Radiotherapy delivers high-energy radiation to the pelvis, which can include the bladder epithelium and/or vasculature, and the detrusor muscle. This can have long-term sequelae of incontinence, obstruction, pain, haematuria, ulceration, and fistulation.

Sodium hyaluronate (Cystistat®) bladder instillations have been established as a treatment option for bladder pain syndrome (BPS). There has been preliminary data to suggest its usefulness in RC in men treated for prostate cancer. However, data is lacking in the cohort of women with RC following treatment for gynaecological malignancy.

Methods

This was a retrospective review of patients attending a tertiary referral centre for gynaecology oncology over a 5-year period. Following cystoscopic assessment of bladder, patients received a standard regimen of Cystistat® bladder instillations of weekly for 6 weeks, followed by two treatments at 6-weekly intervals

Results

Seventeen patients were reviewed. Eleven patients were labelled as RC, two patients had BPS following surgery alone for gynaecological malignancy, and four patients had BPS but no history of malignancy.

Of the patients with pelvic malignancy, 84% (11/13) reported improvement in symptoms; 76% (10/13) reported significant improvement. Of the patients treated with pelvic radiotherapy, 81% (9/11) reported significant improvement. All patients without history of malignancy (4/4) reported some improvement; 75% (3/4) reported significant change.

Conclusions

Bladder instillation of sodium hyaluronate was effective in reducing the symptoms of RC in women treated for gynaecological malignancies.

P-115

The role of Clinical Nurse Specialists in delivering high quality care for women with ovarian cancer.

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[1]*Target Ovarian Cancer*

Aims

1. To demonstrate the breadth of support offered by Clinical Nurse Specialists (CNSs).
- To understand the challenges facing CNSs in delivering these services.

Background

CNSs play a key role in supporting women with ovarian cancer. Target Ovarian Cancer's Pathfinder research conducted in 2016 demonstrated both the benefit of receiving CNS support but also the increasing challenges facing CNSs.

Target Ovarian Cancer provides support for CNSs through our online hub, a regular newsletter and working together on our support events. We also provide resources which CNSs can use in their work supporting women with ovarian cancer.

To understand the current challenges facing CNSs and how Target Ovarian Cancer can support CNSs to address these, we carried out a series of in-depth interviews with CNSs.

Methods

Semi-structured telephone interviews were conducted with seven gynae-oncology CNSs working at different centres and trusts. Grounded theory analysis was used to identify emerging themes.

Results

- CNSs are a vital part of the patient pathway.
- CNS time is often taken up with tasks that could be undertaken by others such as administrator roles.
- CNSs can struggle to access education and training opportunities.
- There is variation in how care is delivered including the point at which a CNS meets a patient and how recurrence is discussed.
- There is an appetite for resources and opportunities to share learnings and best practice across centres and trusts.

Conclusions

- CNSs should be able to focus on their clinical work with adequate support for administration.
- CNSs should be supported to attend education and training opportunities.
- There should be an opportunity to share examples of good practice.

P-116

Implementation Of The Electronic Holistic Needs Assessment For Gynaecology Oncology Patients

Frise-jones H

Aims

The eHNA is a framework that enables a person-centred approach by measuring what really matters to the person affected by cancer. The highlighted concerns and care plan enable CNSs to signpost and refer the patient to other NHS teams and external supporting agencies to help the person manage their illness.

Background

Macmillan Cancer Support in conjunction with the NHS have created and provided the software to support the eHNA and My Care Plan. Hywel Dda's Gynaecology cancer unit were the first to take part in the pilot for the eHNA in Wales.

Methods

The eHNA is a survey consisting of 80 questions which ask the patient to share their current concerns. Once completed, the individual patient results are sent to the appropriate CNS via My Care Plan. This is a unique platform devised to create and share the patients care plan with the patient, the patients GP and other clinical staff.

Results

The results can be illustrated via patient data that is collected from the assessment and from this we can identify tumour specific concerns.

Between June and December 2018, 41 assessments were carried out listing 253 concerns. We have noted that the top three concerns for our cancer patients are: 1. Worry, Fear or Anxiety, 2. Tired, Exhausted and Fatigued and 3. Uncertainty. They are the same top three listed for all cancer sites in Wales and across the UK.

Conclusions

As part of the recovery package and in line with the Cancer delivery plan 2020, the eHNA has provided a framework to identify the concerns of patients and to effectively signpost and refer patients to support agencies both within the NHS and externally. This process fosters the methodology behind person centred care where the patients can be supported through their treatment but can have feel in control of their own disease.

P-117

Malignant bowel obstruction in gynaecological oncology: are there alternatives to surgery or palliation following failed conservative management?

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Aims

This study aimed to review the management of BO in patients with gynaecological malignancy.

Background

Bowel obstruction (BO) is an infrequent but challenging complication of gynaecological cancer. Management may be surgical, medical or conservative, but there is a lack evidence-based guidance to inform best practice.

Methods

In this retrospective study all patients admitted to the NGOC with radiological evidence of BO (2012–2017) were identified. Patient demographics, clinicopathological data and management details were collated. Outcomes were stratified by management (conservative/Gastrograffin®/stent/surgery).

Results

82 patients were included, of which 65(79%) had ovarian cancer. 67(82%) patients presented with small BO and 15(18%) with large BO. 13(16%) patients underwent emergency surgery as first line treatment. All remaining patients were initially managed conservatively with a 32% rate of resolution. Following failed conservative management, an algorithm utilising level of obstruction and presence of transition point(s) was used to determine subsequent management.

In the 43 patients for whom conservative management failed, 11 underwent a trial of Gastrograffin®, 5 underwent endoscopic stenting and 26 underwent emergency surgery. The overall rate of resolution using Gastrograffin® was 64%, for stenting was 80% and for surgical diversion was 100%. 5 patients who were not suitable for surgical intervention were palliated.

There were no adverse events from stents or Gastrograffin®. Overall 66(80%) patients were discharged from hospital and 27(40%) received further chemotherapy. In those successfully treated, the median additional survival was 12.4 months (4.2-90.5). Additional survival was greatest in the subgroup with a single distal transition point treated surgically and lowest in the subgroups with multiple or no transition points.

Conclusions

Patients with BO are highly heterogenous and should be stratified into treatment pathways based upon radiological assessment of transition point(s). Non-surgical interventions have high rates of success when used in a highly selected subgroup of patients. Survival following management of BO is highly variable which is likely to be a reflection of disease distribution.

P-118

Evaluation of a Late Gastrointestinal Effects of Radiotherapy Clinical Nurse Specialist attending a Gynaecological Oncology Follow-up Clinic

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Aims

To evaluate the effectiveness of a Late GI Effects CNS in a Gynaecological Oncology Follow-up Clinic

Background

Patients who receive pelvic radiotherapy may develop gastrointestinal (GI) symptoms which impact on their quality of life (QoL). A GI Specialist Nurse (CNS) has attended our gynaecological follow up clinic since January 2018. This is a new service in addition to a Late GI Effects Clinic based in the local Gastroenterology Department.

Methods

From January 2018 to March 2019, 185 patients had received pelvic radiotherapy. 35% (65) of patients with GI symptoms were identified using the ALERT-B (Taylor et al 2016). Those who answered yes to any question were seen by the GI CNS and investigated using the "Guidance: The Practical Management of Gastrointestinal Symptoms of Pelvic Radiation Disease" (Andreyev et al 2014).

Results

The most common findings were: Symptoms (prevalence) Diarrhoea 45% (29), Abdominal pain 34% (22), Urgency 31% (20), Faecal incontinence 29% (19). Many patients reported more than one symptom. The most common abnormal investigation results were: Investigation (Number of abnormal findings) Colonoscopy/CT 25 (38%) (proctopathy, colitis, diverticular), Blood tests: Haematology 41 (63%) (low Vit B12, FeDef anaemia), Biochemistry: 43 (66%) (low Vit D), Fructose breath test 8% (5), SeHCAT scan 9% (6) Bile acid malabsorption. It was also identified that 22% (14) of patients required specialist dietary advice including certain carbohydrate avoidance, low fat and/or a low FODMAP diet.

Conclusions

Late GI effects are not uncommon following pelvic radiotherapy and can have a significant impact on the patients QoL. A GI Late Effects CNS in a gynaeoncology follow-up clinic quickly identifies, investigates and treats affected patients thus avoiding further clinic referral and speeding up the patients' recovery.

P-119

WITHDRAWN

P-120

WITHDRAWN

P-121
Patient led follow-up for endometrial cancer

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Aims
The aims of the study were to assess patient satisfaction with a patient led follow-up protocol after surgery for endometrial cancer and identify if there was any cancer recurrence and how it was diagnosed.

Background
Current follow-up involves appointments in a consultant led clinic for 5 years after surgery. The British Gynaecological Cancer Society and other bodies are looking for other means of follow-up, which are acceptable to patients and clinically safe.

We changed our follow-up protocol for Stage 1A Grade 1 endometrioid adenocarcinoma in November 2013. Instead of regular appointments over 5 years, the patients would receive a yearly telephone from nurses. Patients were given information about suspicious symptoms and encouraged to contact the team should they have any concerns.

Methods
Data was collected in January 2019 for 104 patients operated on between November 2013 and January 2018. All the patients were contacted by a medical student to complete the telephone questionnaire. Electronic hospital notes were accessed to complete missing data.

Results
There has been no sign of cancer recurrence in all 104 patients. 9% came to clinic due to pain or bleeding but there was no evidence of malignancy. 3% went back to traditional follow-ups: one required emotional support, one had vulval soreness and the third did not speak English. 85% expressed satisfaction of 10/10 for every year during their follow-up. 5% of patients wanted to come back to clinic at 3 years or wanted regular appointments for reassurance.

Conclusions
92% of patients were very satisfied with patient-led follow-up. There has also been no evidence of cancer recurrence in the patients on the new pathway, reflecting that it is likely that a less intensive follow-up pathway is clinically safe.

P-122

Establishing the Audit and Research in Gynaecological Oncology (ARGO) Collaborative in the United Kingdom and Ireland

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[1]ARGO Collaboration

Aims

To establish a collaborative to deliver and provide training in research and clinical audit in gynaecological oncology

Background

Trainee-led research collaboratives in general surgery have demonstrated the ability of such groups to rapidly recruit large numbers of patients and deliver high quality multi-centre research. Trainees are ideally placed to deliver research at point of care given the rotational nature of their placements, their established communication networks and the motivation to provide evidence for participation research and audit during their training. In Gynaecological Oncology, where care is centralised to tertiary level units, there is the opportunity to collect nationally impactful data.

Methods

Members were recruited through the British Gynaecological Cancer Society, National Cancer Research Institute, Royal College of Surgeons and Royal College of Obstetricians and Gynaecologists. A core committee was established to deliver group aims. Webinars and educational events were used to engage with members nationwide. A competitive call for multicentre projects allowed for the selection of our national project.

Results

Between August and November 2018, 52 members, comprising trainees from all fourteen deaneries in the United Kingdom, Northern Ireland and the Republic of Ireland, were recruited. A core committee of six trainees was elected. Two online events and one face to face event have been held. Seven multi-centre project proposals were received. A masked expert panel short-listed four proposals for a 'dragon's den' presentation and refinement. Subsequently, the membership selected a project which will establish how frailty in older patients affects outcomes after gynaecological oncology surgery.

Conclusions

There is a desire amongst trainees to engage in research to deliver patient benefit. A collaborative model facilitates efficient implementation of a project and yields nationally actionable information. Our next study will aid clinical decision-making in some of our most vulnerable patients.

P-123

Does the HRCTV Receive Adequate Dose When Prescribing to Point A When Comparing to Local and National Guidelines for Patients Receiving Intra-Uterine Brachytherapy in cervical cancer

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Aims

Compare the dose to point A versus High risk CTV (HRCTV) for cervical cancer treated with radiotherapy against national protocols

Background

Image guided brachytherapy allows dose conformity and determines dose to organs at risk (OAR). Brachytherapy planning within our department uses Point A system due to lack of MRI access.

Patients undergo CT scan at each fraction of treatment, aiming for an EQD2 of 79.35gy (including EBRT). The dose is then modified depending on OAR dose and the dose to the HRCTV is estimated using an anatomical diagram developed by radiologists from a week 5 MRI.

Selection

Patients treated for cervical cancer and prescribed brachytherapy under one consultant who used HRCTV and Point A between 2013-2015.

Method

The dose prescribed to point A and HRCTV were recorded. The total EQD2 for EBRT plus HDR was calculated for point A and HRCTV. Both dose points were compared to national guidance and treatment outcomes were recorded.

Results

Eighteen patients (stage 1b2-3b) were reviewed. At point A, mean dose was EQD2 73Gy (range 65.5Gy – 79.3Gy). 11 patients (61%) received doses below the RCR minimum dose guidance. OAR was the limiting factor leading to dose reduction. For the HRCTV, the mean dose of EQD2 was 97Gy (range 69.6 Gy-123.9 Gy). Only 2 patients (11.1%) received doses less than RCR recommendation.

There were no local recurrences in any patients. Four patients (22.2%) died from metastases. Five patients had surgery for either suboptimal dose as predicted by Point A/HRCTV or residual disease. 83.4% of patients are alive as of Jan2018.

Conclusions

MRI scan at week 5 allowed an estimation of HRCTV which is more accurate in determining the tumour dose than prescribing to Point A. This allows selection of patients who should be considered for salvage hysterectomy. This resulted in excellent local control rates.

P-124
Palliative radiotherapy to the pelvis for gynaecological cancer

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Aims
To assess the efficacy and tolerability of modern palliative radiotherapy to the pelvis for advanced gynaecological tumours.

Background
Palliative radiotherapy to the pelvis can be used to treat the symptoms of gynaecological cancers including pain, bleeding and discharge. However, unlike for curative treatment, there is no standard dose or fractionation schedule, with patients having between one to five weeks of radiotherapy. This is a single institution retrospective audit of the outcomes of modern palliative pelvic radiotherapy.

Methods
114 patients with cervical, endometrial, vulval or vaginal cancer treated with palliative radiotherapy to the pelvis from 2013 to 2017 were identified. Data including patient characteristics including disease site, stage, PS, comorbidities, clinician reported symptoms, toxicity and radiotherapy details were collected retrospectively.

Results
The median age was 75 (27-98) years. 73 (64%) had PS 2 or greater. 68 (60%) were ineligible for radical radiotherapy due to disease or technical factors, in the remainder palliative treatment was delivered due to poor performance status or comorbidities. 23 (20%) had vulvar cancer, 42 (37%) had cervical cancer, 3 (3%) vaginal cancer and 46 (40%) had endometrial cancer. 105 (91%) of patients were symptomatic, 78 (68%) had bleeding, 62 (54%) pain and 26 (23%) discharge. 15 (13%) received 20 Gy in 5 fractions, 38 (33%) 28-30Gy in 10 fractions and 61 (54%) 35Gy in 15 fractions.

111 (97%) completed their radiotherapy. 28 (25%) experienced grade 2 or higher acute clinician reported toxicity. 88 (83%) of initially symptomatic patients had a clinical response to treatment. The median overall survival from start of radiotherapy was 8 months, with just over 10% of patients alive at 3 years.

Conclusions
Radiotherapy is an effective and generally well tolerated palliative treatment, even in those with poor performance status.

P-125

RCR audit of the use of Radiotherapy to treat Cancer of the Vulva 2018

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Aims

To evaluate the use of Radiotherapy for the treatments of Vulva cancer across the UK in 2018 to enable the development of a UK vulva radiotherapy guideline

Background

Cancer of the vulva is rare and it is difficult to set up trials in this often elderly populations. Even though trials have shown that radiotherapy / chemo-radiotherapy can successfully be used to treat vulva cancer in the adjuvant / neoadjuvant / palliative and radical setting there is limited data as to the best schedules. In the modern radiotherapy era centres are moving from 2-d to 3-d to Intensity Modulated radiotherapy techniques (IMRT) but with limited data regarding the optimal target and dose.

Methods

All radiotherapy centres across the UK invited to participate in study. Data collected via electronic survey for all patients commencing radiotherapy 1st March-31st August 2018. Patient demographics, tumour and radiotherapy details collected.

Results

Data was received from 34 centres 153 patients (radical-60, adjuvant-53, palliative-37, neoadjuvant-2). Median age was 71yrs (27-98), median number of patients=4 (1-14). Radiotherapy Schedules: Radical: 45Gy/25, 59.4Gy/28, 60Gy/25, 65Gy /33; Adjuvant: 45Gy/25, 50.4Gy/28, 54Gy/30, 59.4Gy/33, 60Gy/25, 63Gy/35; Palliative: 8Gy/1, 20Gy/5, 30Gy/10, 45Gy/25. Neoadjuvant: 45Gy/25, 52.6Gy/32. IMRT used: 66%-adjuvant, 100%-neoadjuvant, 27%-palliative, 73%-radical. Chemotherapy used 75%-radical, (weekly Cisplatin mainly, also Cisplatin/5FU, MMC/5FU).

Conclusions

Small numbers of patients are treated in each centre half the centres recording treating </=4 patients in 6months. A range of doses were used in the radical setting reflecting the lack of data on dose response, with greater concordance in the adjuvant setting. The majority of patients were treated with IMRT and we will be looking more closely at the target volumes in these cases and hope to collect outcome data at 12 months to advise future guidelines.

P-126

Recurrence pattern of endometrial cancer following radical surgery and adjuvant EBRT: A retrospective study

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Aims

To review patterns of relapse of endometrial cancer in patients who received EBRT.

Background

PORTEC 3 reported no significant overall survival benefit in patients who received chemoradiotherapy, compared with radiotherapy alone, therefore choosing which adjuvant therapy to offer patients remains challenging.

Methods

We reviewed the clinical notes of 163 patients referred for adjuvant radiotherapy in Kent Oncology Centre from January 2014 – December 2016.

Results

163 patients received 45Gy in 25 fractions adjuvant pelvic radiotherapy. 31 patients relapsed in the follow-up period; mean time to relapse was 14.7 months (range 1.3-37.6 months). Endometriod was the commonest histology in relapsed patients (41%), 26% were carcinosarcoma, 19% serous, 6% mixed, 3% clear cell and 3% not recorded.

The commonest initial staging in patients who recurred was Stage 2 (23%); other recurrence rates by stage were 1a 6%, 1b 16%, 3a 6%, 3b 10%, 3c1 16%, 3c2 13%, 4 3%, 4a 3%, 4b 3%.

Most patients (28 of 31 – 90%) relapsed with widespread metastatic disease while 3 patients had local recurrence only. All patients with local relapse were endometriod, one was Stage 2 and two were stage 3 disease. One patient recurrence within pelvic nodes included in the CTV. The other 2 patients had vaginal recurrences, one with a vault recurrence despite receiving brachytherapy and the other recurred in the lower vagina.

Conclusion

Systemic relapse was the commonest presentation in patients with recurrent disease. Local recurrence was uncommon and only occurred in patients with endometriod histology in our patient group. Our findings demonstrate that relapse is usually a systemic problem, despite no overall survival benefit with systemic treatment reported in Portec 3. The future focus for improvement in endometrial outcomes should be in systemic therapy.

P-127

To review our radiotherapy technique and dose/ fractionation along with clinical outcomes since the implementation of Volumetric Arc Therapy (VMAT) for Vulval Cancer at the Bristol Haematology and Oncology Centre (BHOC)

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Aim

To review our radiotherapy technique and dose/ fractionation along with clinical outcomes since implementation of Volumetric Arc Therapy (VMAT) for Vulval Cancer at the Bristol Haematology and Oncology Centre (BHOC).

Introduction

VMAT for the treatment of vulval cancer was introduced in our centre in 2016. This advanced radiotherapy technique is designed to improve conformity to the tumour while reducing toxicity to critical vital organs. Due the rarity of this tumour, there remains a paucity of randomised trial data available to establish defined radiotherapy guidelines.

Methods

Patients who received adjuvant or definitive radiotherapy for vulval cancer using VMAT between February 2016 and March 2019 were identified and data was collected retrospectively from our radiotherapy database MOSAIQ.

Results

14 patients were identified. Mean patient age was 72 (range 56-84). 11 received adjuvant radiotherapy, 3 combined with chemotherapy. In the adjuvant setting, 8 received 50.4Gy in 28 fractions to the pelvis (other doses were 45Gy, 50Gy and 55Gy in 25 fractions). A phase 2 boost was given to 6 patients. The recurrence rate was 36% at a median of 9 months (range 5-15 months) after completing treatment.

56Gy in 28 fractions was given to 2 out of 3 patients receiving definitive radiotherapy, with the third receiving 50.4Gy in 28 fractions. A phase 2 dose was given to 3 patients. There were no relapses or deaths in a mean follow up of 9 months (range 5-27 months).

No grade 3/4 acute or late genitourinary or gastrointestinal toxicities were reported.

Conclusion

This small series shows promising clinical outcomes for primary radiotherapy, with or without chemotherapy, for the treatment of vulval cancer. In the adjuvant treatment setting our 64% local control rate is comparable to other institutional cohort analyses. This helps reinforce the belief that VMAT offers the best dose distribution in the treatment of vulvar cancer.

P-128

Vaginal dose point reporting in image guided brachytherapy for cervical cancer

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Aims

Assessment of vaginal doses (using posterior-inferior border of pubic symphysis (PIBS)) and toxicity during imaging guided brachytherapy for cervical cancer.

Background

MRI guided brachytherapy with interstitial needles has become standard of care for the treatment of locally advanced cervical cancer. The aim is to deliver a minimum EQD2 of 85-90 Gray (Gy) to the target (HRCTV) D90 whilst respecting normal tissue tolerances. Vaginal delineation is not reproducible and toxicity is poorly reported with no consistent dose-response relationship. Therefore PIBS points have been defined to address this.

Methods

A retrospective analysis of 100 cervical cancer patients treated with image guided brachytherapy between January 2014 and March 2019 was performed. All patients received 21Gy/3 fractions (#) after concurrent chemo-radiotherapy (50.4Gy/28#). Dose delivered to the PIBS and PIBS±2cm points were recorded for the first treatment and extrapolated for the remaining two. Vaginal toxicity was recorded and graded according to CTCAE v4.03.

Results

Median follow-up was 32 months. Mean (range) dose for one treatment at PIBS-2, PIBS, PIBS+2, were 0.91Gy (0-4.25), 2.32Gy (0-13.2) and 6.37Gy (0.6-28) respectively. Total EQD2, α/β=3Gy, (range) for the entire radiotherapy course, at PIBS-2, PIBS, PIBS+2 were 64.8Gy (48.4-78.9), 70.8Gy (48.4-116) and 87.8Gy (63.5-179) respectively. 3 patients (3%) had vaginal necrosis ±fistula formation. 20 (20%) experienced vaginal stenosis; 10 (10%), 4 (4%) and 6 (6%) were grade 1 (G1), G2 and G3 respectively. No statistically significant correlation was found between any grade stenosis and PIBS dose received, r= 0.214, p= 0.05. However on further analysis of high grade toxicity (G2/3 stenosis and necrosis or fistula formation) a correlation appears to exist.

Conclusions

PIBS±2cm is a feasible method of reporting vaginal doses with large variations in dose along the vagina. Rates of severe vaginal toxicity (necrosis, fistula and G3 stenosis) are significant (9%). Ongoing work is necessary to establish dosimetric parameters to reduce vaginal dose.

P-129

Oncological and reproductive outcomes after fertility-sparing surgery in women with Cervical Cancer: A systematic review and meta-analysis

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Aims

To investigate the oncological and reproductive outcomes reported in the literature following trachelectomy and analyse outcomes per technique used.

Background

Several approaches to fertility-sparing surgery in women with cervical cancer exist. Differences in radicality of parametrial excision are thought to exist according to surgical technique. Minimal access approaches may offer benefits in terms of enhanced patient recovery and nerve-sparing, however comparative oncological safety compared to an open approach is highly debated, especially in tumour volume >2cm. Pregnancy outcomes may also vary according to approach. This is the first systematic review and meta-analysis to compare the oncological and reproductive outcomes of simple or radical trachelectomy surgeries.

Methods

We searched relevant studies in MEDLINE, PUBMED and CENTRAL from inception to September 2018. Studies were eligible if they investigated oncological and/or reproductive outcomes following any radical trachelectomy surgical approach. Data were extracted in duplicate and additionally requested from authors where necessary. The primary outcome was cervical cancer recurrence rate after treatment. Secondary outcomes were margin involvement rate, residual tumour rate, conception rate and pregnancy outcomes (including 1stand 2ndtrimester miscarriage rates, delivery rate, preterm labour rate (< 37 weeks)). Random effects models were applied in STATA IC v15 to determine pooled estimates and corresponding heterogeneity. Sensitivity analyses were performed to analyse subgroups and where significant heterogeneity was detected.

Results

We identified 59 eligible studies including over 2150 women. Recurrence rate varied by surgical approach: simple vaginal trachelectomy (SVT) 2% (95%CI 1-3%, I2=NA), vaginal radical trachelectomy (VRT) 3% (95%CI 2-4%, I2=0%) abdominal radical trachelectomy (ART) 1% (95%CI 0-2%, I2=35%), laparoscopic radical trachelectomy (LRT) 2% (95%CI 0-6%, I2=31%), radical robotic trachelectomy (RRT) 0% (95%CI 0-4%, I2=0%). Involved margins rate was lowest for LRT (7%, 95%CI 0-3%, I2=0%) and highest for RRT (7%, 95%CI 0-25%, I2=50.8%). Conception rate was highest for VRT (62%, 95%CI 47-75%, I2=84%) and lowest for ART (34%, 95%CI 25-44%, I2=55%).

Conclusions

Although promising oncological and reproductive outcomes are achievable with fertility preservation surgery, a challenge remains in balancing both with the use of one technique. Further studies comparing head to head the different approaches are required to establish the true advantages and disadvantages of each technique.

P-130

Defective homologous recombination DNA repair in endometrial cancer confers sensitivity to Niraparib

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Aims

1) Establish incidence of HRD in EC cell lines and ex vivo patient primary cultures.
2) Explore the cytotoxic and growth inhibition effect of Niraparib (PARPi) and cisplatin as monotherapy or as chemo-/radio-sensitisers.
3)

Background

Beyond platinum there is a need for better systemic therapies in endometrial cancers (EC). The role of PARP inhibitors (PARPi) is established in ovarian cancers with defective homologous recombination repair (HRR). A proportion of ECs display high copy number alterations and we thus hypothesised that some ECs are HRR defective (HRD) and sensitive to PARPi.

Methods

Cytotoxicity (colony formation) and growth inhibition (SRB) following Niraparib, cisplatin and irradiation, alone and in combination, was assessed in cell lines. Fresh patient tumour samples (12/NE0395) were mechanically dissociated and cultured. Primary cultures and cell lines were characterised for HRR function by quantification of RAD51 foci.

Results

EC cell lines displayed a 10-fold variation in sensitivity to cisplatin: LC50 0.22µM to 2.15µM but only a 3-fold sensitivity to Niraparib: 2.08µM to 6.87µM, and a 2-fold sensitivity to irradiation: LD50 1.25Gy to 2.20Gy. Niraparib caused a modest radio-sensitisation in 3/4 cell lines with a potentiation factor at 2 Gy of 2.1. All EC cell lines were HRR competent.

Ex vivo patient samples formed monolayer epithelial cultures with a 48% success rate. 2/10 cultures were HRD with greater sensitive to Niraparib: GI50 of 1.73µM compared to 9.38µM in HRC cultures.

Conclusion

EC cell lines were similarly sensitive to Niraparib despite displaying greater variation in cisplatin and IR sensitivity. It is feasible to generate primary EC cultures to determine HRR function. HRD is associated with greater PARPi sensitivity in translational studies.

Detection of HRD in patient cultures suggests that there may be a role for PARPi as both a radio-sensitiser and mono-therapy in this patient group.

P-131

Identification of targetable mutations in uLMS and preclinical response to MDM2 inhibitors HDM201 and RG7388 as Monotherapy and in combination with mTOR inhibition

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Aims

Investigate the preclinical response to MDM2 inhibitors in uLMS cell lines and, using publicly available sequencing data from uLMS patients, identify mutations that could be targeted therapeutically and investigated in combination with MDM2 inhibitors.

Background

uLMS is a rare aggressive cancer with limited treatment options. As no driver mutations have been identified, investigating its molecular pathology could identify potential actionable targets. MDM2 is a critical negative regulator of p53 and therefore attractive therapeutically. Previous research on targeting MDM2 to reactivate p53 has shown promise in a variety of p53WT cancers and as ~60-70% of uLMS patients retain WTp53 this offers a potential therapeutic option.

Methods

Growth inhibition, clonogenic survival, and cell cycle progression were investigated in MES-SA (p53WT) and SKUT-1 (p53Mut) cell lines following single agent or combination treatment. Beta-galactosidase staining was used as a measure of senescence and levels of apoptosis assessed using a caspase-3/7 assay. Western blot analysis was used to evaluate the mechanistic response. Drug interactions were determined using Median-effect analysis.

Results

Significant molecular heterogeneity was observed, with the most common aberrations found in *TP53, MED12, ATRX, RB1* and *PTEN.* MDM2 inhibitors (HDM201 and RG7388) were combined with AZD2014 (mTOR inhibitor) and Rucaparib (PARP inhibitor). HDM201 or RG7388 as single agents inhibited cell growth inducing cell cycle arrest and senescence. Western blot analysis revealed p53 stabilisation and induction of MDM2 and p21. AZD2014 inhibited cell growth in both uLMS cell lines, inducing apoptosis and senescence in a sub set of cells. Dual MDM2 and mTOR inhibition was synergistic, although not through increased p53 stabilisation, and increased slightly the levels of apoptosis observed following single agent MDM2 treatment, although still less than for AZD2014 alone.

Conclusions

Dual MDM2 and mTOR inhibition offers a promising therapeutic strategy for uLMS patients with p53WT or mixed p53WT and p53Mut tumours.

P-132

Real-world data from Single Cancer Centre Institution Experience of Niraparib maintenance in patients with platinum-sensitive, second remission onwards, Ovarian Cancer patients – 2 year follow up.

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Aims

To study the safety and efficacy of Niraparib tablets.

Background

Niraparib is a daily oral inhibitor of PARP enzymes. The inhibition results in DNA damage, apoptosis and cell death.

The NOVA trial is a randomised phase 3 study demonstrated significant improvement in progression-free survival for women with platinum sensitive recurrent ovarian cancer on Niraparib maintenance. Treatment related toxicities were manageable with dose interruption and/or dose reduction. In the trial, adverse reactions led to dose reduction or interruption in 69% of patients. Treatment efficacy was maintained with dose modification.

Methods

We conducted a prospective analysis of all patients with platinum sensitive, recurrent ovarian/ primary peritoneal cancer who received Niraparib maintenance therapy in Queen Alexandra Hospital, Portsmouth from July 2017-18/04/2019.

Results

30 eligible patients were identified. 21/30 patients (70%) commenced on 300mg Niraparib, while others were commenced on 200mg. 19/30 patients (63%) needed dose reduction, which was achieved mostly (17/19 patients) within 4 weeks of treatment. 8/20 patients 40%) were still on the tablets after 6 months. 21/23 patients (91%) stopped Niraparib due to disease progression and 2/23 patients (9%) due to side effects.

23/30 patients (76.7%) experienced side effects. 21/23 patients (91%) experienced first onset of side effects within 4 weeks of treatment.

Final dose of tolerable Niraparib were 33% at 300mg/daily, 45% at 200mg/daily and 22% at 100mg/daily dose.

Conclusions

Niraparib maintenance was safe and tolerable for our patients. Median Progression-free survival was 5 months. On average, patients were on the tablets for over 6.3 months.

The commonest side effects were fatigue, nausea, insomnia, headaches, hypertension and thrombocytopaenia. 2/30 patients stopped because of severe side effects.

P-133

A Prospective Evaluation of the Tolerability of Niraparib Dosing Based on Baseline Body Weight and Platelet Count: Blinded Pooled Interim Safety Data From the ENGOT-OV26/PRIMA Study

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Aims

The ENGOT-OV26/PRIMA study is evaluating niraparib versus placebo as maintenance therapy in patients with high-risk stage III/IV ovarian cancer after frontline platinum-based therapy. Regular and independent safety reviews have not identified new safety issues. The study was prospectively amended to evaluate safety and efficacy of a new dosing paradigm.

Background

Niraparib (ZEJULA®) is a selective PARP1/2 inhibitor approved for maintenance treatment of patients with recurrent ovarian cancer who are in complete or partial response to platinum-based therapy regardless of BRCA or HRD status, based on ENGOT-OV16/NOVA trial (*N Engl J Med*. 2016:2154-2164). In ENGOT-OV16/NOVA, dose adjustments due to adverse events (AEs) occurred in 69% of patients and occurred early, with most reaching individualized dose within 3 months. A retrospective analysis of ENGOT-OV16/NOVA showed that patients with body weight (BW) <77 kg or platelet count (PC) <150,000/µL were more likely to have dose reductions due to hematologic AEs; importantly, efficacy was not compromised.

Methods

Patients were initially randomized 2:1 to start niraparib 300mg once daily (QD) or placebo. The protocol was amended to starting dose to 200mg QD for patients with baseline BW <77 kg or PC <150,000/µL and 300mg for all others. The trial remains blinded for efficacy and safety. Safety analyses were conducted to compare AEs among patients starting at 300mg (pre-amendment) versus those starting at 200 or 300mg (post-amendment).

Results

As of August 15, 2018, 733 patients were randomized and 727 were dosed. Of those dosed, ≈34% (n=247) were dosed based on BW and PC. Blinded data were pooled from niraparib and placebo. There were no major differences in key demographics or disease characteristics. Relevant safety data are presented.

Conclusions

These interim safety data prospectively confirm that niraparib tolerability is improved with a 200- and 300-mg starting dose when based on BW and PC.

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△VGF/F1L – A Recombinant Vaccinia Virus With Potent Oncolytic Activity Against Ovarian Cancer Cells In Vitro

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Aims

To explore the potential of a new recombinant Vaccinia strain (ΔVGF/F1L) as a therapeutic oncolytic for ovarian cancer.

Background

Ovarian cancer has the worst prognosis of all gynaecological malignancies, with a ten-year survival of only 35%. Exploration of novel therapeutics is warranted if outcomes are to improve.

Vaccinia is a member of the orthopox family of viruses and has established potential as an oncolytic therapeutic. Whilst being explored as a treatment for many malignancies, there are features of Vaccinia that particularly interest those targeting ovarian cancer. Although not fully understood, the virus has natural tropism for ovarian tissue and preferentially infect and replicate at this site. Furthermore, it spreads to metastatic disease in vivo and kill ovarian cancer cells in the mouse.

Methods

The vaccinia viral genome encodes for many anti-apoptotic proteins whose primary role is to prevent premature host cell death prior to viral replication and spread. We have produced a new recombinant Vaccinia virus which lacks two of these anti-apoptotic proteins, namely VGF and F1L. A panel of cell lines were infected with ΔVGF/F1L and cell survival was quantified using an MTT assay. Viral replication and spread were measured using standard plaque assays.

Results

ΔVGF/F1L has a greater ability to kill Hela cells than the wild-type, Western Reserve (WR), virus. Using a panel of ovarian cancer cell lines, we show that △VGF/F1L infection increases cell death in most cell lines compared to WR. Importantly, the loss of these anti-apoptotic proteins does not impact on the ability of the virus to replicate and spread in vitro.

Conclusions

We propose that △VGF/F1L, a new recombinant Vaccinia virus, has potential clinically and we now prepare to move this work into an in vivo model. In addition, we plan to explore the mechanisms behind varying response of cell lines to viral infection.

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