# BGCS 2016

**British Gynaecological Cancer Society**

**Annual Scientific Meeting**

12th – 13th May 2016, The ICC, Birmingham

In Collaboration with:

NCRI National Cancer Research Institute

# Final programme and book of abstracts

BGCSConference.com

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Lynparza™
olaparib
capsules 50 mg

I have ovarian cancer.

# TEST ME
for BRCAm.

# TREAT ME
with Lynparza (olaparib).

Lynparza is indicated as monotherapy for the maintenance treatment of adult patients with platinum-sensitive relapsed BRCA-mutated (germline and/or somatic) high grade serous epithelial ovarian, fallopian tube, or primary peritoneal cancer who are in response (complete response or partial response) to platinum-based chemotherapy.

AstraZeneca

**LYNPARZA™ 50 MG HARD CAPSULES (olaparib) PRESCRIBING INFORMATION. Consult Summary of Product Characteristics before prescribing.**

**Use:** Monotherapy for the maintenance treatment of adult patients with platinum-sensitive relapsed BRCA-mutated (germline and/or somatic) high grade serous epithelial ovarian, fallopian tube or primary peritoneal cancer who are in response (complete response or partial response) to platinum-based chemotherapy. **Presentation:** 50 mg olaparib hard capsules. **Dosage and administration:** Recommended 400mg (eight capsules) twice daily, take at least one hour after food; refrain from food preferably for up to 2 hours afterwards. Treatment should start no later than 8 weeks after completion of the final dose of the platinum-containing regimen and continue until progression of underlying disease. Treatment should be initiated and supervised by a physician experienced in the use of anticancer therapies. Breast cancer susceptibility gene (BRCA) mutation (either germline or tumour) needs to be confirmed by a validated test prior to treatment. **Dose adjustments:** Treatment interruption and dose reduction may be considered to manage adverse reactions. If a strong or moderate CYP3A inhibitor must be coadministered, the recommended olaparib dose reduction is 150mg twice daily with a strong CYP3A inhibitor or 200mg twice daily with a moderate CYP3A inhibitor. **Renal impairment:** Can be administered in patients with mild renal impairment. Not recommended for use in moderate/severe renal impairment (creatinine clearance <50ml/min) or hepatic impairment.**Contraindications:** Hypersensitivity to the active substance or to any of the excipients. Pregnancy and breast-feeding. **Warnings and precautions:** *Haematological toxicity:* Treatment should not be started until there is a full recovery from haematological toxicity caused by previous anticancer therapy. Monthly monitoring of complete blood count is recommended for first 12 months of treatment. **Myelodysplastic syndrome/Acute Myeloid Leukaemia (MDS/AML):** If confirmed while taking Lynparza, treat appropriately. Where additional anticancer therapy is recommended, discontinue Lynparza. **Pneumonitis:** Interrupt Lynparza treatment and promptly investigate as appropriate. Discontinue Lynparza if pneumonitis is confirmed. **Drug interactions:** Consult SmPC for further details. Not suitable for combination with other anticancer medicinal products. Caution and close monitoring if vaccines or immunosuppressant agents are co-administered. **Effect of other drugs on olaparib:** Co-administration with strong inducers of CYP3A4/5 isoenzymes (e.g. phenytoin, rifampicin, carbamazepine and St John's Wort) should be avoided. Efficacy of Olaparib may be reduced if combined. Olaparib co-administration with strong (e.g. itraconazole, clarithromycin) or moderate (e.g. ciprofloxacin, diltiazem) CYP3A inhibitors is not recommended. If a strong or moderate CYP3A inhibitor must be co-administered, the dose of olaparib should be reduced. It is also not recommended to consume grapefruit juice while on olaparib therapy. P-gp inhibitors may increase exposure to olaparib. Effect of olaparib on other drugs: In particular, caution should be exercised if olaparib is administered in combination with any statin. The efficacy of hormonal contraceptives may be reduced if co-administered with olaparib. Caution and appropriate clinical monitoring recommended when sensitive CYP3A substrates or substrates with a narrow therapeutic margin (e.g. simvastatin, cyclosporine, fentanyl, and quetiapine) or P-gb substrates (e.g. simvastatin, digoxin, colchicine) are combined with olaparib. Appropriate clinical monitoring is recommended for patients receiving this type of medication. Olaparib may increase the exposure to substrates of OATPB1 PI Lynparza 50 mg ONC 15 0029 (Based on ONC 15 0022) 04/03/16 RS (e.g. bosentan, glibenclamide, repaglinide, statins and valsartan), OCT1, MATE1, MATE2K (e.g. metformin), OCT2 (e.g. serum creatinine), OAT3 (e.g. furosemide and methotrexate), **Effect of olaparib on other drugs:** In particular, caution should be exercised if olaparib is administered in combination with any statin. The efficacy of hormonal contraceptives may be reduced if co-administered with olaparib. Caution and appropriate clinical monitoring recommended when sensitive CYP3A substrates or substrates with a narrow therapeutic margin (e.g. simvastatin, cyclosporine, fentanyl, and quetiapine) or P-gb substrates (e.g. simvastatin, digoxin, colchicine) are combined with olaparib. Appropriate clinical monitoring is recommended for patients receiving this type of medication. Olaparib may increase the exposure to substrates of OATPB1 PI Lynparza 50 mg ONC 15 0029 (Based on ONC 15 0022) 04/03/16 RS (e.g. bosentan, glibenclamide, repaglinide, statins and valsartan), OCT1, MATE1, MATE2K (e.g. metformin), OCT2 (e.g. serum creatinine), OAT3 (e.g. furosemide and methotrexate), **Undesirable events:** Consult SmPC for full list of adverse events. *Very common:* nausea, vomiting, diarrhoea, dyspepsia, dysgeusia, decreased appetite, fatigue (including asthenia), headache, dizziness, anaemia, neutropaenia, lymphopaenia, mean corpuscular volume elevation, and increase in blood creatinine. *Common:* thrombocytopaenia, upper abdominal pain, stomatitis. **Legal category:** POM. **Marketing authorisation number:** EU/1/14/959/001. **Basic NHS cost:** 448 Hard Capsules: £3550.**Further information is available from the Marketing Authorisation Holder:** AstraZeneca UK Ltd., 600 Capability Green, Luton, LU1 3LU.

LYNPARZA is a trade mark of the AstraZeneca group of companies.

03/2016

ONC 15 0029

**Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to AstraZeneca on 0800 783 0033**

Date of preparation: April 2016 966,169.011

# CONTENTS

# WELCOME

**Dear Colleagues,**

On behalf of the Organising Committee, I would like to welcome you to the 2016 Annual Scientific Meeting of the British Gynaecological Cancer Society (BGCS).

The meeting embodies the premiere scientific gynaecological cancer meeting of the year for the UK and we expect to attract a large number of delegates. The conference is being held in a world-class venue and welcomes over 300,000 delegates each year.

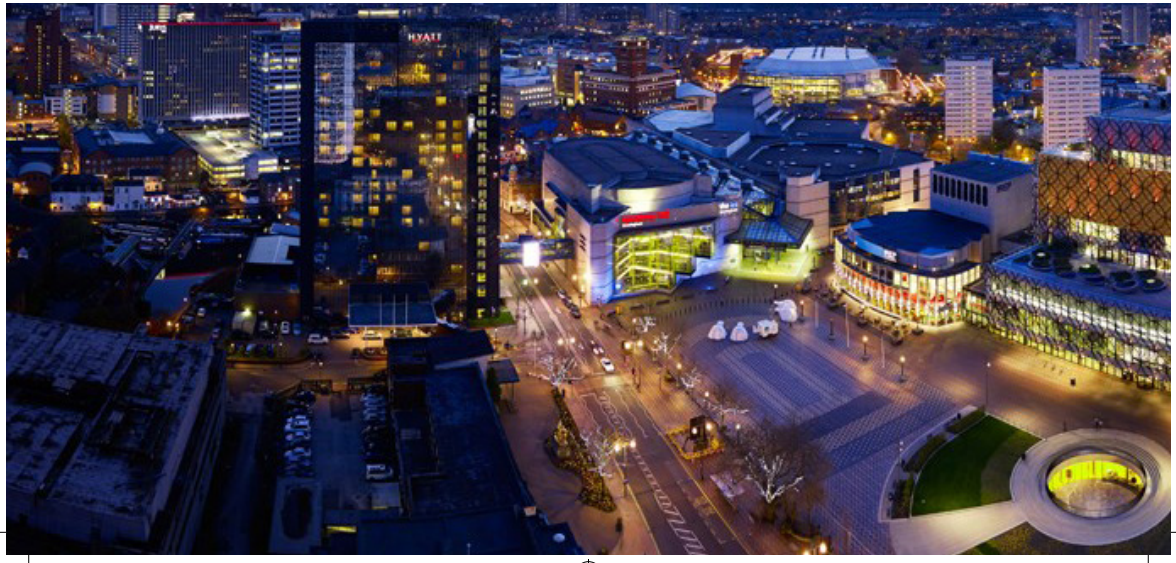
We very much hope that you enjoy what will be a lively and informative meeting and we hope you will find time to also sample the tourist attractions of Birmingham in your free time.

**Mr Janos Balega MRCOG**
**Chair of the Local Organising Committee** Pan-Birmingham Gynaecological Cancer Centre

## Local Organising Committee

**Sudha Sundar**, University of Birmingham, Pan Birmingham Gynaecological Cancer Centre
**Kavita Singh**, Pan-Birmingham Gynaecological Cancer Centre, City Hospital, Birmingham
**James Nevin**, Pan-Birmingham Gynaecological Cancer Centre, City Hospital, Birmingham
**Sean Kehoe**, Pan-Birmingham Gynaecological Cancer Centre, City Hospital, Birmingham
**Ahmed Elattar**, Pan-Birmingham Gynaecological Cancer Centre, City Hospital, Birmingham
**Janos Balega**, Pan-Birmingham Gynaecological Cancer Centre, City Hospital, Birmingham

From NCRI:
**Iain McNeish**, University of Glasgow



# NEXT MEETING

## BGCS 2017

Thursday 15th - Friday 16th June

**Glasgow**

## Conference Organisers

BGCS 2016 Secretariat
c/o In Conference Ltd
Unit 1, Q Court,
Quality Street,
Edinburgh, EH4 5BP
Scotland, UK

**Tel:** +44(0)131 336 4203
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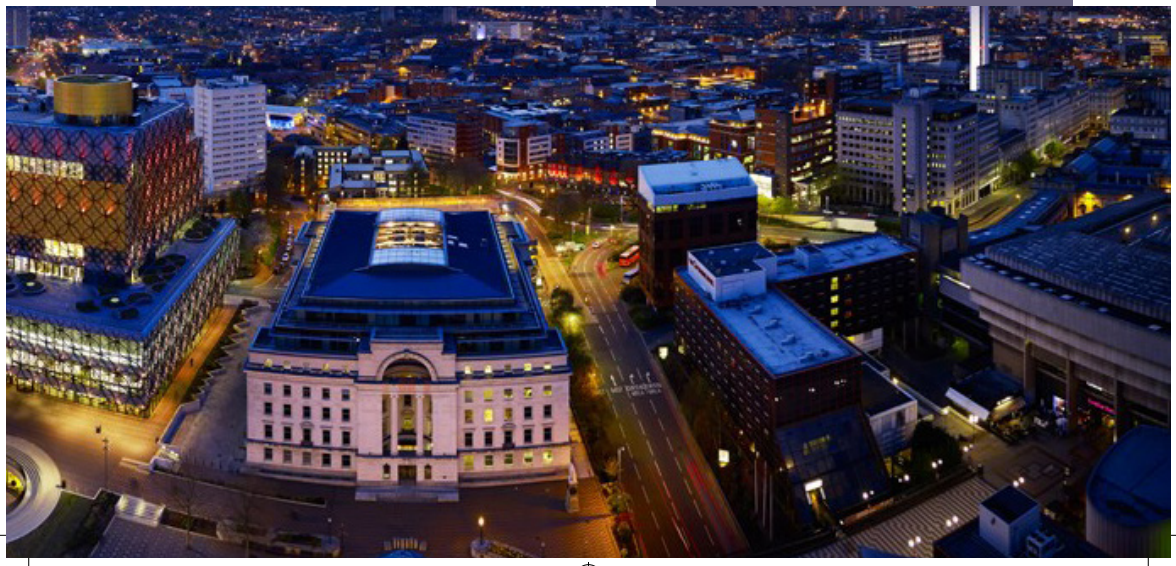

# SCIENTIFIC PROGRAMME

| Thursday 12th May 2016 | | Location |
|---|---|---|
| 07:30 – 18:00 | **Registration & Speaker Preview Open** | Hall 6 & Hall 6 Foyer |
| 08.15 – 09:15 | **Breakfast Symposium- Sanofi Pasteur MSD**<br>**HPV Vaccination – The Evolving Story**<br>*Speaker: Maria Kyrgiou, Imperial College London and The West London Gynaecological Cancer Centre, Imperial Healthcare NHS Trust, UK* | Hall 7b |
| 09:25 – 09:55 | **Update on the British Surgical Gynaecological Oncology Group**<br>*Raj Naik, Northern Gynaecological Oncology Centre, Gateshead, UK* | Hall 5 |
| 09.55 – 10:00 | **Welcome**<br>*Janos Balega, Pan-Birmingham Gynaecological Cancer Centre, UK*<br>*Chair of the Scientific Committee* | Hall 5 |
| 10:00 – 12:30 | **Plenary Session 1** | Hall 5 |
| 10:00 – 10:20 | **Lifetime Achievement Award Ceremony**<br>*To: John Shepherd, St Bartholomew's and The Royal Marsden Hospitals, UK*<br>*Presented By: Arjun Jeyarajah, St Bartholomew's Hospital, London, UK* | |
| 10:20 – 10:40 | **Future of Cancer Care in the NHS**<br>*Rob Gornall, NHS England and Cheltenham General Hospital, Cheltenham, UK* | |
| 10:40 – 11:00 | **NCRI Update on Ovarian Cancer**<br>*Sudha Sundar, Pan-Birmingham Gynaecological Cancer Centre, UK*<br>*Sarah Williams, Queen Elizabeth Hospital, Birmingham, UK* | |
| 11:00 – 11:20 | **Implementing Routine BRCA Mutation Testing in Ovarian Cancer**<br>*Iain McNeish, Institute of Cancer Sciences, University of Glasgow, UK* | |
| 11:20 – 11:40 | **Proffered Papers Session 1** | |
| 11.20– 11:30 | ***O-1* Interim Results of Feasibility Study Exploring The Role of The Plasmajet to Achieve Complete Cytoreduction during Debulking for Epithelial Ovarian Cancer**<br>*T K Madhuri, Royal Surrey County Hospital NHS Foundation Trust, UK* | |
| 11.30– 11:40 | ***O-2* Age-Adjusted Charleston Co-Morbidity Index (ACCI) Predicts Survival in Patients Undergoing Debulking Surgery after Neo-Adjuvant Chemotherapy (NACT) for Advanced Epithelial Ovarian (AOC) Cancer**<br>*Andrew Phillips, Pan-Birmingham Gynaecological Cancer Centre, UK* | |
| 11:40 – 12:00 | **High-Grade Serous Carcinoma: Primary Site Assignment and Chemotherapy Response Score**<br>*Lynn Hirschowitz, Women's Hospital, Birmingham, UK* | |

| | | |
|---|---|---|
| 12:00 – 12:30 | **Astra Zeneca Sponsored Lecture**<br>**Surgery and Chemotherapy in Platinum Sensitive Recurrent Ovarian Cancer Patients**<br>*Philipp Harter, Kliniken Essen-Mitte, Essen, Germany* | |
| 12:30 – 13:30 | **Astra Zeneca 'Meet the Expert' session with lunch**<br>*Philipp Harter, Kliniken Essen-Mitte, Essen, Germany* | Hall 7b |
| 12:30 – 13:40 | **Lunch / Exhibition / Poster Viewing** | Hall 8 & Hall 7a |
| 13:40 – 15:50 | **Plenary Session 2** | Hall 5 |
| 13:40 – 14:10 | **Surgery and Neoadjuvant Chemotherapy in Advanced Ovarian Cancer: an Interpretation of the CHORUS and EORTC Trials**<br>*Ignace Vergote, Catholic University of Leuven, Belgium* | |
| 14:10 – 14:40 | **What can we learn from Surgical Oncologists in the Management of Ovarian Cancer?**<br>*S P Somashekhar, Manipal Comprehensive Cancer Center, India* | |
| 14:40 – 15:00 | **Ovarian Cancer Screening – What Do We Know Now?**<br>*Usha Menon, University College London, UK* | |
| 15:00 – 15:20 | **Management of Mucinous Ovarian Cancer**<br>*Martin Gore, The Royal Marsden Hospital, London, UK* | |
| 15:20 – 15:50 | **The Future of Gynaecological Oncology as a Profession**<br>*Christophe Pomel, Jean Perrin Cancer Centre, Clermont-Ferrand, France* | |
| 15:50 – 16:30 | **Tea/Coffee/Exhibition/Poster Viewing** | Hall 8 & Hall 7a |
| 16:30 – 18:00 | **Plenary Session 3** | Hall 5 |
| 16:30 – 16:50 | **The Role of Salvage (Adjuvant) Hysterectomy in The Management of Cervical Cancer**<br>*Kavita Singh, Pan-Birmingham Gynaecological Cancer Centre, UK* | |
| 16:50 – 17:20 | **Management of Pelvic Radiation Disease**<br>*Jervoise Andreyev, The Royal Marsden Hospital, London, UK* | |
| 17:20 – 17:40 | **Life After Cervical Cancer: Long-Term Consequences of Treatment**<br>*Claire Cohen, Jo's Cervical Cancer Trust, London, UK* | |
| 17:40 – 18:00 | **NCRI Update on Cervical and Vulval Cancer**<br>*Emma Hudson, South Wales Cancer Centre, Cardiff, UK* | |
| 19:30 - Late | **BGCS Conference Dinner** | Council House |

| Friday 13th May 2016 | | Location |
|---|---|---|
| 07:30 – 16:00 | **Registration & Speaker Preview Open** | Hall 6 & Hall 6 Foyer |
| 08:00 – 09:00 | **BGCS AGM** | Hall 5 |
| 09:00 – 10:20 | **Plenary Session 4** | Hall 5 |
| 09:00 – 09:20 | **Developing Strategies to Prevent Endometrial Cancer: An NCRI Update**<br>*Emma Crosbie, St Mary's Hospital, Manchester, UK* | |
| 09:20 – 09:40 | **An Update in Uterine Pathology**<br>*Raji Ganesan, Women's Hospital, Birmingham, UK* | |
| 09:40 – 10.00 | **Molecular Stratification of Endometrial Cancer: Implications for Trials and Treatment**<br>*Richard Edmondson, St Mary's Hospital, Manchester, UK* | |
| 10.00 – 10:20 | **The Significance of Lymph-Vascular Space Invasion in Endometrial Cancer**<br>*Azmat Sadozye, Beatson Oncology Centre, Glasgow, UK* | |
| 10:20 – 11:00 | **Tea/Coffee/Exhibition/Poster Viewing** | Hall 8 & Hall 7a |
| 11:00 – 13:30 | **Plenary Session 5** | Hall 5 |
| 11:00 – 11:20 | **Optimal Surgery in Gynaecological Oncology - The Clinical Oncologists' Perspective**<br>*Indy Fernando, Queen Elizabeth Hospital, Birmingham, UK* | |
| 11:20 – 11:40 | **Pitfalls and Limitations of Sentinel Node Detection in Gynaeoncology**<br>*Omer Devaja, West Kent Cancer Centre, Maidstone, UK* | |
| 11:40 – 12:00 | **Management Of Vulval Cancer: Where Are We Now?**<br>*David Luesley, City Hospital, Birmingham, UK* | |
| 12:00 – 13:00 | **Proffered Papers Session 2** | |
| 12:00 – 12:10 | ***O-3* Lymphaticovenular Anastomosis Improves Quality of Life and Limb Volume in Patients with Secondary Lymphoedema after Gynaecological Cancer Treatment**<br>*Dominic Furniss, Oxford Lymphoedema Practice, UK* | |
| 12:10 – 12:20 | ***O-4* The Surgical Intelligent Knife (iKnife) Identifies Gynaecological Tissue Type Real-Time Intra-Operatively**<br>*David L Phelps, Imperial College London, UK* | |
| 12:20 – 12:30 | ***O-5* Results from a Cancer Centre 5 Years Post Introduction of a Robotic Programme**<br>*T K Madhuri, Royal Surrey County Hospital NHS Foundation Trust, UK* | |

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|---|---|---|
| 12:30-12:40 | ***O-6*** **Exploiting Tumour Infiltrating Lymphocytes (TILs) as a Therapeutic Strategy in Ovarian Cancer - A Proof of Concept Study**<br>*Gemma Owens, University of Manchester, UK* | |
| 12:40-12:50 | ***O-7*** **Defining the 'Risk Threshold' for Risk Reducing Salpingo-Oophorectomy for Ovarian Cancer Prevention in Premenopausal Women**<br>*Ranjit Manchanda, Queen Mary University of London and Bartshealth NHS Trust, UK* | |
| 12:50-13:00 | ***O-8*** **Histological Diagnosis of Rectosigmoid Resections Performed in Ovarian Cancer Surgery**<br>*Saliya Chipwete, Sandwell and West Birmingham Hospitals NHS Hospitals Trust, UK* | |
| 13:00 – 13:30 | **Roche Sponsored Lecture**<br>**Treatment Sequencing in Advanced Ovarian Cancer – Where Are We? A Guided Discussion Sponsored By Roche**<br>*Isabella Ray-Coquard, University Hospital, Lyon, France*<br>*Chair: Rebecca Kristeleit, University College Hospital, London* | |
| 13:30 – 14:30 | **'Meet the Expert' sponsored by RocheRare gynaecological cancers: the future of today!**<br>*Isabelle Ray-Coquard, University Hospital, Lyon, France*<br>*Chair: Rebecca Kristeleit, University College Hospital, London* | Hall 7b |
| 13:30 – 14:30 | **Lunch/Exhibition/Poster Viewing** | Hall 8 & Hall 7a |
| 14:40 – 16:00 | **Plenary Session 6** | Hall 5 |
| 14:40 – 15:00 | **The Management of Borderline Ovarian Tumours**<br>*Christina Fotopoulou, Imperial College Healthcare Trust, London, UK* | |
| 15:00 – 15:20 | **Sentinel Node Sampling Using ICG**<br>*Marielle Nobbenhuis, The Royal Marsden Hospital, London, UK* | |
| 15:20 – 15:40 | **Proffered Papers Session 3** | |
| 15:20 - 15:30 | ***O-9*** **Risk of Malignancy Algorithm for The Diagnosis of Ovarian Cancer: A Systematic Review and Meta-Analysis**<br>*Nirmala Rai, University of Birmingham, UK* | |
| 15:30 - 15:40 | ***O-10*** **Should Negative HPV Typing Result after LLETZ Lead to A More Conservative Treatment of Cervical Carcinoma?**<br>*Efraim Siegler, Carmel Medical Center, Israel* | |
| 15:40 – 15:50 | **Surgical Gynaeoncology Research Network (SGRN) Update**<br>*Claire Newton, St Bartholomew's Hospital, London, UK* | |
| 15:50 – 16.00 | **Prizes for Best Oral and Poster Presentations** | |
| 16:00 | **Closure of Conference** | Hall 5 |

# INVITED SPEAKERS

**Dr Jervoise Andreyev,** The Royal Marsden Hospital, London, UK

**Ms Claire Cohen,** Jo's Cervical Cancer Trust, London, UK

**Dr Emma Crosbie,** St Mary's Hospital, Manchester, UK

**Professor Omer Devaja,** West Kent Cancer Centre, Maidstone, UK

**Professor Richard Edmondson,** St Mary's Hospital, Manchester, UK

**Professor Indy Fernando,** Queen Elizabeth Hospital, Birmingham, UK

**Dr Christina Fotopoulou,** Imperial College Healthcare Trust, London, UK

**Dr Raji Ganesan,** Women's Hospital, Birmingham, UK

**Professor Martin Gore,** The Royal Marsden Hospital, London, UK

**Mr Rob Gornall,** NHS England and Cheltenham General Hospital, Cheltenham, UK

**Dr Lynn Hirschowitz,** Women's Hospital, Birmingham, UK

**Ms Emma Hudson,** South Wales Cancer Centre, Cardiff, UK

**Professor David Luesley,** City Hospital, Birmingham, UK

**Professor Iain McNeish,** Institute of Cancer Sciences, University of Glasgow, UK

**Professor Usha Menon,** University College London, UK

**Ms Claire Newton,** St Bartholomew's Hospital, London, UK

**Ms Marielle Nobbenhuis,** The Royal Marsden Hospital, London, UK

**Professor Christophe Pomel,** Jean Perrin Cancer Centre, Clermont-Ferrand, France

**Dr Azmat Sadozye,** Beatson Oncology Centre, Glasgow, UK

**Ms Kavita Singh,** Pan-Birmingham Gynaecological Cancer Centre, UK

**Dr S P Somashekhar,** Manipal Comprehensive Cancer Center, India

**Ms Sudha Sundar,** Pan-Birmingham Gynaecological Cancer Centre, UK

**Professor Ignace Vergote,** Catholic University of Leuven, Belgium

**Ms Sarah Williams,** Queen Elizabeth Hospital, Birmingham, UK


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the icc
birmingham
Rotary
Rotary

# GENERAL INFORMATION

## Conference Dinner

**Thursday 12th May 19.30 – Midnight**
**Council House, Victoria Square**
**Birmingham, B1 1BB, UK**

The Dinner will include a welcome drink followed by a 3-course menu. Places are limited at dinner so early booking is advised! Please ask at the Registration Desk for a late ticket availability.

## Certificate of Attendance

Certificates of Attendance will be emailed directly to all delegates on completion of the evaluation form.

## Exhibition

In order to maintain low registration fees, it is critical that we have the support of commercial organisations at the conference. Please take the time to visit our sponsors and exhibitors in Hall 8. The Exhibition will be open at the following times:

| | |
|---|---|
| Thursday 12th May | 12:30hrs - 18:00hrs |
| Friday 13th May | 08:00hrs - 14:30hrs |

## Insurance

The Conference Organisers cannot accept any liability for personal injuries or for loss or damage to property belonging to delegates, either during, or as a result of the meeting. Please check the validity of your own personal insurance before travelling.

## Posters

Posters can be put up on Thursday 12th May from 11:00hrs and will be located in Hall 7a and the foyer areas.

Posters will be available to view for the duration of the conference and must be removed by 14:30hrs on Friday 13th May. Any posters not removed by Friday 13th May at 14:30hrs will be removed by the organisers.

Delegates are encouraged to view the posters during the official tea/coffee and lunch breaks.

| POSTERS | |
|---|---|
| **Chemotherapy** | P-1 to P-3 |
| **Gynaecological Cancer Surgery** | P-4 to P-72 |
| **Novel Biomarkers** | P-73 to P-76 |
| **Palliation** | P-77 to P-78 |
| **Pathology** | P-79 to P-95 |
| **Quality of Life** | P-96 to P-103 |
| **Radiotherapy** | P-104 to P-109 |
| **Targeted Agents** | P-111 to P-113 |

## Registration/Information Desks

All delegates will receive their name badge, ordered tickets and all relevant conference information upon arrival at The ICC. The registration desk will be located in the foyer area of Hall 6 on level 3.

**The Registration and Information Desks will be open at the following times:**

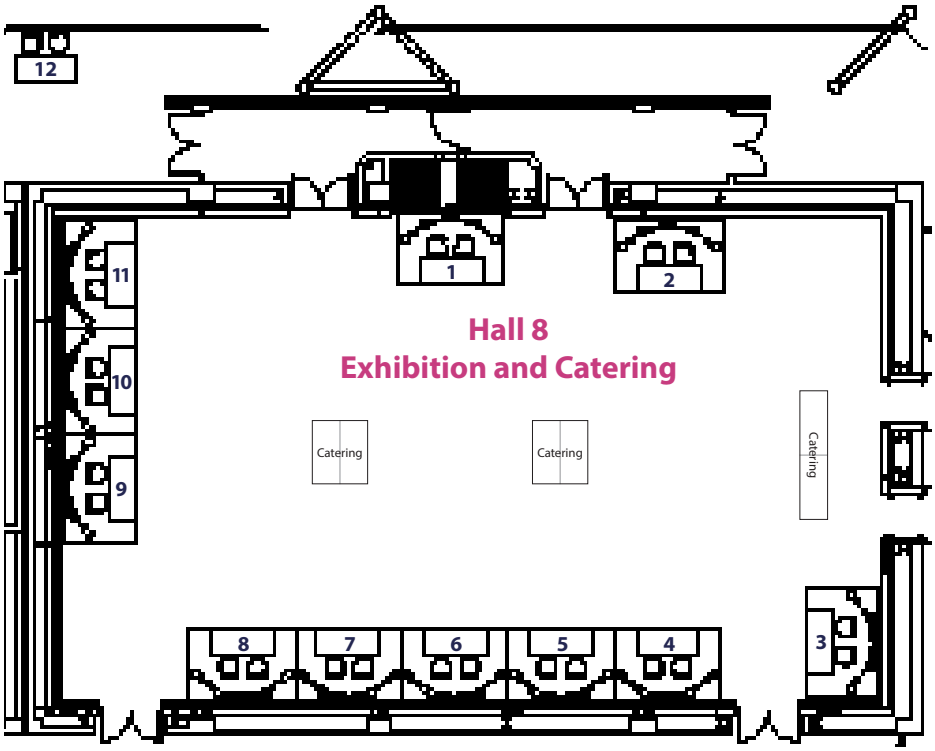
Thursday 12th May 07:30 – 18:00
Friday 13th May 07:30 – 16:00

## Speaker Presentation Check In (Hall 6)

Presenters must check in their presentation at least four hours before they are due to speak. On the first day, the Speaker Presentation Room will be open from 07:30 – 18:00 and priority will be given to speakers in the morning session.

It will not be possible to check in presentations in the main plenary room. Staff will be on-hand in the Speaker Preview room to assist. Presenters do not need to bring a laptop as presentations will be loaded onto a main computer.

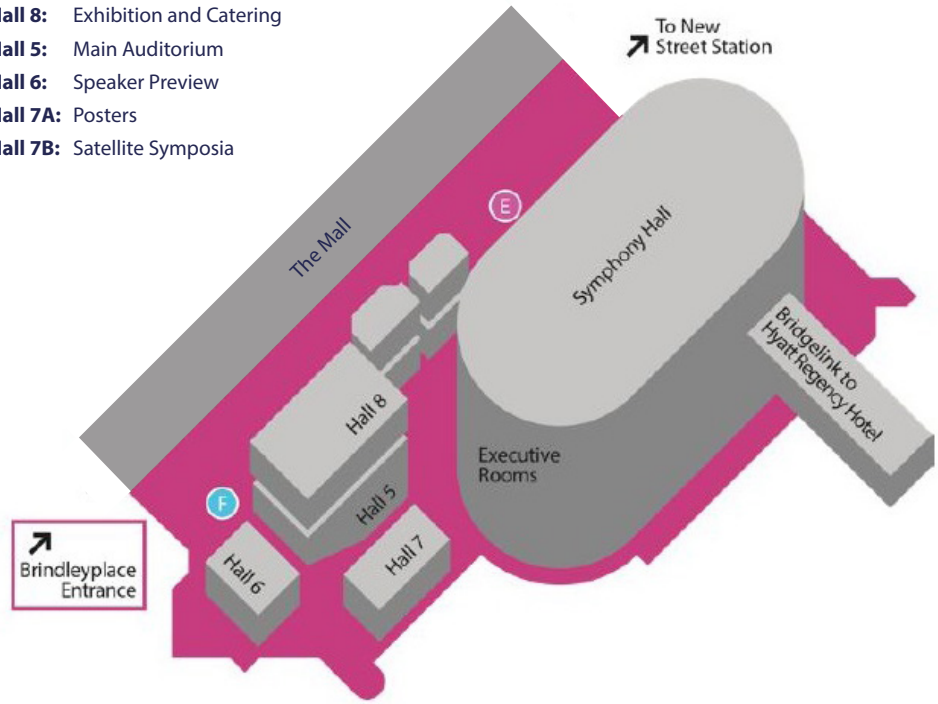
# VENUE FLOORPLANS




**Stand Number and Company Names**

1. Astra Zeneca
2. Abcodia Ltd
3. Aquilant Surgical
4. Roche
5. Elemental Healthcare Ltd
6. Jo's Cervical Cancer Trust
7. ConMed UK
8. Stericom Ltd
9. Pleasure Solutions
10. Ovacome
11. Oxford Lymphoedema Practice
12. BGCS

**Hall 8:** Exhibition and Catering
**Hall 5:** Main Auditorium
**Hall 6:** Speaker Preview
**Hall 7A:** Posters
**Hall 7B:** Satellite Symposia



# LIST OF EXHIBITORS AND SPONSORS

We gratefully acknowledge the following organisations and companies for their generous support and sponsorship of the BGCS 2016 Meeting:

## BRONZE SPONSOR

### ASTRAZENECA

Horizon Place, 600 Capability Green, Luton. LU1 3LU, UK

**Contact:** Suzanne Fowler

**Tel:** +44 (0) 1582 836000 **Fax:** +44 (0) 1582 838000

**Email:** Suzanne.fowler@astrazeneca.com **Web:** www.astrazeneca.co.uk

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**Tel:** +1 (0) 781 801 7366

**Email:** Katie.Wohler@abcodia.com **Web:** www.abcodia.com

Abcodia is a clinical stage company engaged in the commercial development of tests for the early detection of cancer. The ROCA© Test is used for monitoring a woman's risk of having ovarian cancer, and was validated in 3 clinical trials to be more accurate and detect earlier than other tests.

## AQUILANT SURGICAL

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**Tel:** +44 (0)1256 365 450 **Fax:** +44 (0)1256 365 486

**Email:** contactus@aquilantsurgical.com **Web:** www.aquilantsurgical.com

Our growth and journey continues at pace, established in 1991 and becoming part of the UD Group in 2003, Mantis Surgical along with our other medical device businesses re-branded last year to come together under one recognisable name; Aquilant. Our overall vision at Aquilant is to be recognised as the most commercially innovative and patient focused market services organisation that is specifically designed for the healthcare sector. Our surgical division is renowned for bringing innovative, high quality products to the UK. Predominantly working in the fields of General Colorectal Surgery, Obstetrics & Gynaecology, many of our brands have become well recognised. Our Partners include Cooper Surgical and the Lone Star range along with the recently launched Women's Health products, THT Bio-Science with Swing Mesh, Kawamoto with the Endoractor, and Integra with Jarit laparoscopic instruments, which gives coverage of a broad spectrum of procedures. We are also engaged in a strategic partnership with Smith & Nephew.

## BGCS

**Contact:** Mrs Deborah Lewis

**Tel:** +44(0) 7753 251675

**Email:** administrator@bcgs.org.uk **Web:** www.bgcs.org.uk

The BGCS is an expert group capable of discussing, performing and formulating policy on gynaecological cancer research and treatment. The Society is a rich mix of surgical, medical and clinical oncologists, unit leads, radiologists, pathologists and nurse specialists. Our Aim: To advance the science and art of gynaecological oncology for the benefit of the public.

## CONMED UK

73/74 Shrivenham Hundred Business Park, Watchfield, Swindon, SN6 8TY, UK

**Contact:** Teresa Harris – Business Development Manager, Surgical

**Tel:** +44 (0) 7854 584637 **Fax:** +44 (0) 1793 784568

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**Contact:** Anabel Goncalves Lifecycle Management Marketing Assistant

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CAN Mezzanine, 49-51 East Road, London, N1 6AH, UK

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**Email:** info@jostrust.org.uk **Web:** www.jostrust.org.uk

Jo's Cervical Cancer Trust is the only UK charity dedicated to those affected by cervical cancer and cervical abnormalities. It offers a range of online and face to face support and information including: local support groups, a Helpline (0808 802 8000), an online forum and an Ask The Expert service. Services are available for you and your patients and in addition we have a range of peer reviewed information on HPV, cervical abnormalities, cervical cancer staging, treatment and life after diagnosis. The charity also has pages on long term consequences of treatment: early menopause and HRT, sex and intimacy, and pelvic radiation disease, written information as well as film resources. Order free copies of our 'Recently diagnosed' patient booklet at our stand in the exhibition hall.

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52 – 54 Featherstone Street, London EC1Y 8RT

**Contact:** Ruth Payne

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Ovacome exists to support women and their family through providing dedicated help and information. Our fully qualified nurses give expert guidance, personalised clinical and research information, emotional support and resources to women diagnosed with ovarian cancer or worried they might be at risk; and their family and friends.

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**Contact:** Jenny Furniss

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**Email:** hilaryb@psolve.co.uk **Web:** http://Pleasuresolutions.co.uk

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**Contact:** Katherine Pinder, Head of Supportive Services

**Tel:** +44 (0) 20 7923 5475

**Email:** info@targetovariancancer.org.uk **Web:**www.targetovariancancer.org.uk

Target Ovarian Cancer is the UK's leading ovarian cancer charity. We work to:

» improve early diagnosis,
» fund life-saving research,
» provide much-needed support

We're the only charity fighting ovarian cancer on all three of these fronts, across all four nations of the UK. We work with women, family members and health professionals to ensure we target the areas that matter most to women with ovarian cancer.

# SATELLITE SYMPOSIA

**Thursday 12th May 08:15 – 09:15**

**Sanofi Pasteur MSD Sponsored Breakfast Session (Breakfast will be provided)**
**HPV Vaccination – The Evolving Story**

**Hall 7b**

**Speaker:** *Maria Kyrgiou, Imperial College London and The West London Gynaecological Cancer Centre, Imperial Healthcare NHS Trust, UK*
Followed by Question and Answer Session

**Thursday 12th May 12:00 – 12:30**

**AstraZeneca Sponsored Lecture**
**Surgery and Chemotherapy in Platinum Sensitive Recurrent Ovarian Cancer Patients**

**Hall 5**

**Speaker: Philipp Harter, Kliniken Essen-Mitte, Essen, Germany**
Followed by Meet The Expert Session with lunch

**Thursday 12th May 12:30 – 13:30**

**Hall 7b**

**Speaker:** *Philipp Harter, Kliniken Essen-Mitte, Essen, Germany*

**Friday 13th May 13:00 – 13:30**

**Roche Sponsored Lecture**
**Treatment Sequencing in Advanced Ovarian Cancer – Where Are We?**
**A Guided Discussion Sponsored By Roche**

**Hall 5**

**Speaker:** *Isabella Ray-Coquard, University Hospital, Lyon, France*
**Chair:** *Rebecca Kristeleit, University College Hospital, London*
Followed by Meet The Expert Session with lunch

**Friday 13th May 13:30 – 14:30**

**Hall 7b**

**Rare Gynaecological Cancers: The Future of Today!**
**Speaker:** *Isabella Ray-Coquard, University Hospital, Lyon, France*
**Chair:** *Rebecca Kristeleit, University College Hospital, London*

# ORAL ABSTRACTS

## O-1

### INTERIM RESULTS OF FEASIBILITY STUDY EXPLORING THE ROLE OF THE PLASMAJET TO ACHIEVE COMPLETE CYTOREDUCTION DURING DEBULKING FOR EPITHELIAL OVARIAN CANCER

*T K Madhuri, W Ashbourne, P Ellis, S A Butler-Manuel, A Tailor*

*Royal Surrey County Hospital NHS Foundation Trust, Guildford, UK*

**Introduction**
Epithelial ovarian cancer(EOC) is the 2nd common gynaecological cancer and is 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 when surgery undertaken.

**Study Design**
Initial feasibility study. Following ethics and R & D approval, recruitment commenced.

**Population**
Women with Stage 3/ 4 epithelial ovarian , fallopian tube and primary peritoneal cancer (biopsy proven) considered suitable for either primary or interval debulking surgery

**Intervention & Controls**
During surgery, women randomised to either receive the PlasmaJet (PJ) device or standard surgery

**Outcome**
Primary outcome was complete cytoreduction . Secondary outcomes included mortality and morbidity, ability to avoid bowel surgery/stoma formation, health economics and quality of life.

**Early results**
89/110 patients recruited with nearly half in each arm. Analysis due to 5 adverse events as per protocol. Results suggest decreased bowel resection rate in PJ arm ($p<0.05$), higher cytoreduction rate (p,0.05) and higher diaphragm stripping ($p<0.05$)

PJ is a new device for clinical use designed to produce a fine jet of Argon plasma by heating pressurized argon gas and releasing it through a small electrically charged field in the tip of the hand-piece. The Argon plasma jet can then be directed by the surgeon to treat the tissue surface.

**Conclusion**
Recruitment ongoing but Morbidity is not increased by the use of PJ

Study discussed at the NCRI ovarian cancer subgroup meeting and preparation for multicentre funding application.

O-2

## AGE-ADJUSTED CHARLESTON CO-MORBIDITY INDEX (ACCI) PREDICTS SURVIVAL IN PATIENTS UNDERGOING DEBULKING SURGERY AFTER NEO-ADJUVANT CHEMOTHERAPY (NACT) FOR ADVANCED EPITHELIAL OVARIAN (AOC) CANCER

*Andrew Phillips, Ahmed Elattar, Sudha Sundar, James Nevin, Rachel Pounds, Kavita Singh, Janos Balega*

*Pan-Birmingham Gynaecological Cancer Centre, UK*

**Introduction**
The ACCI is a predictive model which uses 19 different medical conditions and age to predict mortality. The aim of our study was to identify if the ACCI can be used to predict OS in patients undergoing NACT for AOC.

**Methods**
We undertook a retrospective review of all cytoreductive surgeries performed between 16th August 2007 and 3rd February 2014 by subspecialty trained gynaecological oncologists at the Pan-Birmingham Gynaecological Cancer Centre.

**Results**
293 consecutive cases who received NACT followed by delayed primary debulking surgery were identified. 74 (25.26%) patients had ACCI scores of 0-1 (low), 164 (55.97%) had ACCI scores of 2-3 (intermediate) and 55 (18.77%) had ACCI scores greater than or equal to 4 (high). No difference was identified when comparing complexity of surgery, ACCI and the development of grade 1-2 or grade 3+ morbidity ($p>0.05$). The median follow-up was 61.15 months**.** Median survival for the entire cohort was 37.04 (95% CI 33.53 – 40.57) months. Median survival for patients with a low, intermediate and high ACCI was 44.58 (95% CI 36.98 – 52.19), 34.65 (95% CI 29.48 – 39.82) and 33.37 (95% CI 17.47– 49.27) months respectively. ACCI was significantly associated with overall survival ($p<0.01$). On multivariate analysis our results remained significant ($p=0.029$).

**Conclusion**
The ACCI is a marker of survival in AOC following treatment with neo-adjuvant chemotherapy and surgery. The ACCI may be useful in preoperative counselling in patients considering NACT treatment approaches in AOC. High ACCI should not be barrier to consideration for surgery.

O-3

## LYMPHATICOVENULAR ANASTOMOSIS IMPROVES QUALITY OF LIFE AND LIMB VOLUME IN PATIENTS WITH SECONDARY LYMPHOEDEMA AFTER GYNAECOLOGICAL CANCER TREATMENT

*Dominic Furniss*[1,2], *Sinclair Gore*[1,2], *Alex Ramsden*[1,2]

[1]*Oxford Lymphoedema Practice, UK,* [2] *Oxford University Hospitals NHS Foundation Trust, UK*

Secondary lymphoedema affects around 125,000 people in the UK, and is a common consequence of surgery and radiotherapy for the treatment of gynaecological cancer. Lymphaticovenular anastomosis (LVA) is a new, minimally invasive, supermicrosurgical treatment for lymphoedema, wherein lymphatic channels are anastomosed to subcutaneous venules in the leg, creating a physiological bypass of the damaged lymphatics. We aimed to assess the effect of LVA on quality of life and limb volume for patients with secondary leg lymphoedema using validated volumetric measurements and patient reported outcome measures.

We prospectively recorded both lymphoedema-specific quality of life (LYMQOL) and limb volumes before LVA and at the latest post-operative clinic visit in a cohort of 20 women. We used descriptive statistics to document the change in quality of life and limb measurements.

At a mean of 8.2 months post-op, the LYMQOL increased by an average of 14.3 points (absolute increase 14%; relative increase 20.6%). In unilateral lymphoedema cases, the average reduction of excess volume was 47.5%, with 11/13 legs showing volumetric improvement. In bilateral cases, 13/14 legs improved in size, and the average absolute reduction in limb volume was 7.4%.

These results from this study of minimally invasive surgery for lymphoedema show great promise in terms of improving patient reported quality of life and volumetric measurements in cancer survivors. Patients showing early signs of lymphoedema or at high risk of developing the condition should be referred for consideration of surgical intervention.

O-4

## THE SURGICAL INTELLIGENT KNIFE (iKnife) IDENTIFIES GYNAECOLOGICAL TISSUE TYPE REAL-TIME INTRA-OPERATIVELY

*David L Phelps[1], Julia Balog[1,2], Louise F Gildea[1], Mona El-Bahrawy[1], Abigail VM Speller[1], James S McKenzie[1], Robert Brown[1], Zoltan Takats[1], Sadaf Ghaem-Maghami[1]*

*[1]Imperial College London, UK, [2]Waters Corporation, Budapest, Hungary*

**Introduction**
Complete cytoreductive surgery for ovarian cancer (OC) gives a significant prognostic advantage but surgery is often challenging, especially after neo-adjuvant chemotherapy when fibrosis makes accurate resection of lesions less reliable. Rapid Evaporative Ionisation Mass Spectrometry (REIMS) is based on the mass spectrometric analysis of smoke produced by surgical diathermy and detects unique phospholipid signatures to identify tissue types in real time; this has been termed the iKnife.

**Method**
Ovarian samples (normal, benign, borderline, cancer), fallopian tube and peritoneum were analysed by means of REIMS. Electrosurgical smoke was introduced into the mass spectrometer and spectra featuring predominantly lipid species were recorded. The spectra, clinical data and histology populated a reference database on which principal component (PCA), linear discriminant (LDA) and leave one patient out cross-validation were performed.

**Results**
683 individual data points were obtained from 163 processed tissue samples. Histopathologically defined normal ovary and OC produced unique spectra which enabled clear separation in PC-LDA analyses. Cross-validation resulted in 100% sensitivity and specificity in the correct classification of OC (n=195). Correct classification of fresh tissue types using the frozen tissue model resulted in correct classification of 98%

**Interpretation**
Gynaecological tissues, whether benign, borderline, malignant or normal, have unique phospholipid signatures, which can be used to accurately determine tissue type real-time intra-operatively. The iKnife has the potential to revolutionise surgical cancer care. It is able to rapidly establish tissue diagnosis, which improves the probability of achieving maximal cytoreduction, and may shorten operations, improve patient care and survival.

## O-5

## RESULTS FROM A CANCER CENTRE 5 YEARS POST INTRODUCTION OF A ROBOTIC PROGRAMME

*TK Madhuri, S Kannangara, R Bharathan, A Laios, P Ellis, SA Butler-Manuel, A Tailor*

*Royal Surrey County Hospital NHS Foundation Trust, Guildford, UK*

**Introduction**
Application of minimal invasive surgery in gynaecological oncology has been reported since 1980's. Uptake of laparoscopic surgery among gynaecologists has been poor with only 14% reduction in open surgery. Rate-limiting step appears to be advanced laparoscopic skills required for complex surgery which appears less widespread.

We established a robotics program in December 2009 and started robotic surgery (RS) for women with gynaecological cancers from mid 2010.

Five years hence, we report our experience of RS.

**Materials and Methods**
Prospective, observational study in a tertiary gynaecological oncology centre Patient demographics, intra and post-operative data recorded.

**Results**
**(650)** cases have been performed. Procedures varied from simple hysterectomy and pelvic node sampling for endometrial cancer to radical hysterectomy and systematic pelvic node dissection for cervical cancer. Other specialist procedures like trachelectomy and ovarian transposition have also been undertaken. BMI ranged from 18-63(Mean 44). Median estimated blood loss overall was 50mls(5-2500). Median hospital stay was 1 day. Lymph node yield was comparable (20-56).

**Conclusion**
Prior to introduction of our robotics program a review of our records revealed that atleast 64% of the women especially obese patients underwent open surgery. The biggest advantage to patients is the reduced blood loss, shortened hospital stay, reduced pos-operative pain due to less torque on trocars and varied applications even in gynaeonc surgery. Camera positioning by the surgeon, no camera shake, 3D image leading to greater appreciation of surgical anatomy along with better ergonomics and less fatigue are benefits to surgeons.

O-6

## EXPLOITING TUMOUR INFILTRATING LYMPHOCYTES (TILs) AS A THERAPEUTIC STRATEGY IN OVARIAN CANCER - A PROOF OF CONCEPT STUDY

*Gemma Owens[1,2], Vicky Sheard[2], Marcus Price[1], David Gilham[2], Richard Edmondson[1]*

*[1]Institute of Cancer Sciences, University of Manchester, UK, [2]Clinical and Experimental Immunotherapy, Manchester Cancer Research Centre, University of Manchester, UK*

**Background**
Traditionally epithelial ovarian cancer (EOC) was not considered to be immunogenic; however, several studies have identified tumour-reactive T-cells in tumours and ascites, the presence of which has been shown to correlate with improved clinical outcomes. Tumour infiltrating lymphocyte (TIL) therapy has shown encouraging results in other immunogenic tumours and may represent a promising therapeutic strategy for EOC.

**Aim**
To test the reproducibility of an established protocol to expand TILs from EOC biopsies.

**Methods**
TILs were isolated and expanded as previously described (Baldan *et al.*, 2015). Expansion was recorded on alternate days. To determine functional activity of expanded TILs against autologous tumour, IFNγ production was measured. Flow cytometry was used to characterise the phenotype of expanded TILs.

**Results**
To date, TILs were successfully expanded from 12/12 clinical specimens. Total number of TILs at day 19 ranged from 1.5 - 39.8 $x10^7$. TILs showed strong functional activity against autologous tumour cells at an effector/target ratio of 1:1. 92% of co-cultures demonstrated $IFN_\gamma$ secretion above that of TILs alone. Importantly, we have shown that TILs retain their anti-tumour function following cryopreservation for ≥8 weeks. TIL cultures resulted in approximately 40% $CD4^+$: 60% $CD8^+$ populations. Both $CD4^+$ and $CD8^+$ subsets demonstrated features associated with effector memory phenotypes ($CCR7^-CD45RO^+$).

**Conclusion**
We have demonstrated that TILs can be consistently expanded from EOC biopsies. Importantly, expanded TILs maintain autologous tumour recognition in vitro. Based on our preliminary data, we are currently developing phase I/II trial protocols to evaluate the clinical potency of TILs in EOC.

O-7

## DEFINING THE 'RISK THRESHOLD' FOR RISK REDUCING SALPINGO-OOPHORECTOMY FOR OVARIAN CANCER PREVENTION IN PREMENOPAUSAL WOMEN

*Ranjit Manchanda[1,2], Rosa Legood[3], Antonis Antoniou[4], Vladimir Gordeev[3], Usha Menon[5]*

*[1]Barts Cancer Institute, Queen Mary University of London, UK, [2]Bartshealth NHS Trust, London, UK, [3]London School of Hygiene and Tropical Medicine, UK, [4]Centre for Cancer Genetic Epidemiology, University of Cambridge, UK, [5]Institute for Women's Health, University College London, UK*

**Background:**
Risk-reducing salpingo-oophorectomy (RRSO) is the most effective option for preventing ovarian cancer(OC) but is only available to high-risk women with >10% lifetime OC-risk. This threshold has not been formally tested for cost-effectiveness.

**Objective:**
To define risk-thresholds for cost-effectiveness of RRSO for preventing OC in premenopausal women.

**Methods:**
A decision-analytic model compares lifetime costs-&-effects of 'RRSO' with 'no RRSO' in premenopausal women >40 years for lifetime OC-risk thresholds: 2%, 4%, 5%, 6%, 8% and 10%. Costs/outcomes are discounted at 3.5%. Deterministic/Probabilistic sensitivity analysis (PSA) evaluated model uncertainty. Model outcomes include: OC, breast cancer(BC) and excess coronary heart disease deaths. Total costs-&-effects were estimated in Quality-adjusted-life-years (QALYs); cancer incidence; incremental-cost-effectiveness-ratio (ICER). Data Sources: Published literature, Nurses-Health-Study, BNF, CRUK, NICE guidelines, NHS reference costs. The time-horizon is: Life-time and Perspective: Payer

**Results:**
Pre-menopausal RRSO is cost-effective at 4% OC-risk (life-expectancy gained=61.7 days, ICER= £11270/QALY). RRSO remains cost-effective at>7% OC-risk (a)without hormone replacement therapy (ICER=£20071/QALY, life-expectancy gained=27.1days) or (b)if the BC risk-reduction=0 (ICER=£19595/QALY, life-expectancy gained=46.7days). Results are not sensitive to treatment costs of RRSO/OC/cardiovascular events but sensitive to RRSO utility-scores. PSA showed 50.8%, 73.9%, 84.5%, 92.9%, 98.6% and 99.8% simulations at OC risk-thresholds of 2%, 4%, 5%, 6%, 8% and 10% respectively are cost-effective for RRSO.

**Conclusions:**
Premenopausal RRSO appears to be highly cost-effective at ≥4% lifetime OC-risk, with ≥61.7days gain in life-expectancy. Current guidelines should be re-evaluated to reduce the RRSO OC-risk threshold to benefit a number of at-risk women who presently cannot access risk-reducing surgery.

O-8

## HISTOLOGICAL DIAGNOSIS OF RECTOSIGMOID RESECTIONS PERFORMED IN OVARIAN CANCER SURGERY

*Saliya Chipwete[2], Swarna Guttikonda[2], Andrew Phillips[1,2], Janos Balega[1,2], Esther Moss[3], Kavita Singh[1,2]*

*[1]Pan Birmingham Gynaecological Cancer Centre, UK, [2]Sandwell and West Birmingham Hospitals NHS Hospitals Trust, UK, [3]University of Leicester, UK*

**Objective**
We describe the histopathologic findings of patients who underwent rectosigmoid/large bowel resection as part of cytoreductive surgery to improve survival.

**Methods**
We evaluated the histological features of the resected bowel in 140 patients that were operated on between August 2006 to August 2014 at the Pan Birmingham Cancer Centre. Rectosigmoid infiltration was histopathologically defined as infiltration of the serosa /mesocolic fat or deeper.

**Results**
Tumour involvement was confirmed histopathologically in 119 (85%) of the patients. There was infiltration of the serosa in 43(30.7%) patients, infiltration of muscularis propria in 41(29.3%) patients, infiltration of the mucosa in 8(5.7%) patients, infiltration of submucosa in 6 (4.3%) patients and full thickness involvement in 7 (5%) patients. The complete debulking rate in this group is 75.4% with an optimal debulking rate of 12.3% and suboptimal debulking rate of 12.3%. Type 1 tumours were significantly more likely to have primary surgery compared to Type 2 tumours ($p<0.0001$).

**Conclusion**
Pelvic surgery with rectosigmoid/large bowel resection was justified by histopathologic outcome since preservation of the rectosigmoid would have left tumor in situ in 85% of patients with suspected large bowel involvement.

O-9

## RISK OF MALIGNANCY ALGORITHM FOR THE DIAGNOSIS OF OVARIAN CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

*Nirmala Rai[1], Rita Champanaria[2], Clare Davenport[2], Simon Stevens[2], Sue Bayliss[2], Kym Snell[2], Sue Mallet[2], Sean Kehoe[1], Jonathan Deeks[2], Sudha Sundar[1]*

*[1]Institute of Cancer and Genomic sciences, University of Birmingham, UK, [2]Institute of Applied Health Research, University of Birmingham, UK*

**Objective:**
Critical evaluation of the accuracy of risk of malignancy algorithm (ROMA) for the diagnosis of ovarian cancer in pre and post menopausal women

**Methods:**
Prespecified protocol was registered with Cochrane. An electronic search across a range of databases including Medline, Embase and Cochrane was conducted from 2009 to February 2015 using sensitive search strategies combining terms for ovarian cancer and CA 125, HE4 and ROMA. Women ≥18 years suspected of ovarian cancer were included with the exception of pregnant women. Studies with insufficient 2x2 data to assess diagnostic test performance were excluded.

Reference standard is histology or clinical follow-up in women with conservative management.

Test sensitivities and specificities for common thresholds will be pooled using bivariate meta-analysis for all women, as well as separate analyses for pre-menopausal and post-menopausal women. Forest plots will show the sensitivity or specificity of individual studies as well as pooled average across studies. SROC plots will be produced to show the accuracy of the ROMA across thresholds.

**Results:**
A total of 24 studies were selected for full text screening. Study characteristics were extracted and quality assessment was undertaken based on Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) tool. Data was extracted to derive a 2x2 table for each study.

Statistical analysis is currently underway. A summary of strengths and limitations of evidence, risk of bias and summary measures of the meta-analysis will be presented.

**Conclusion:**
This review should provide information on the accuracy and use of ROMA and different thresholds for ovarian cancer diagnosis

**O-10**

## SHOULD NEGATIVE HPV TYPING RESULT AFTER LLETZ LEAD TO A MORE CONSERVATIVE TREATMENT OF CERVICAL CARCINOMA?

*Efraim Siegler, Ofer Lavie, Tamar Baruch-Finkel, Pninit Shaked-Mishan, Ron Auslander, Yael Goldberg*

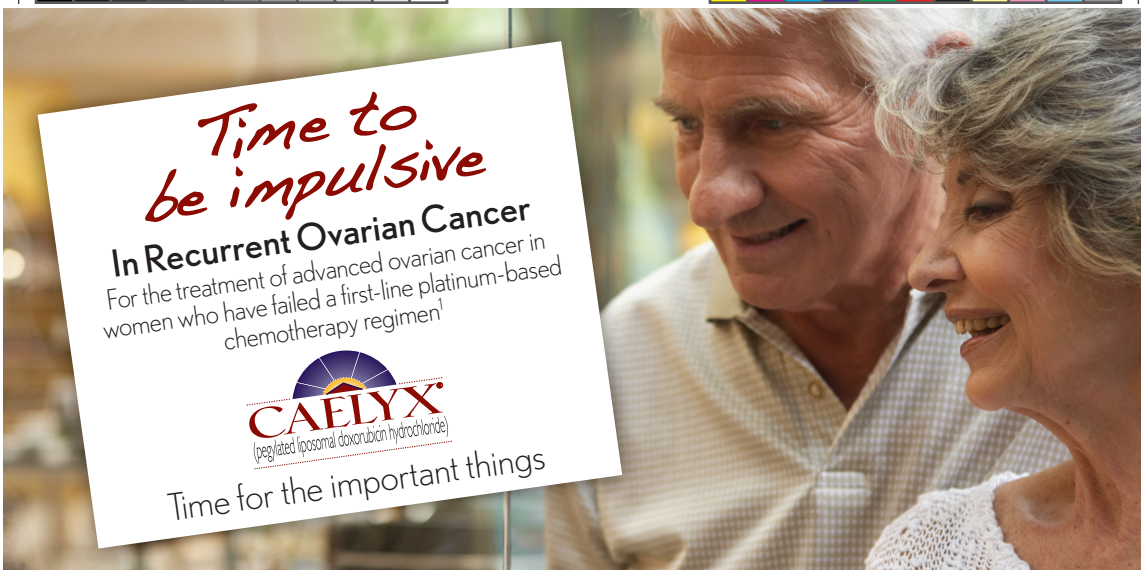
*Carmel Medical Center, Haifa, Israel*

**Introduction:**
According to FIGO the standard treatment for women with early-stage, (stage IA2-IB1) cervical cancer is radical hysterectomy. Studies have explored a less aggressive approach for cervical cancer patients with early-stage disease, who wish to preserve their fertility. The parameters investigated were: the depth of invasion, tumor diameter, lymph node status and lymph-vascular space invasion. In our study we examine whether the HPV status by PCR taken after Large Loop Excision of Transformation Zone in women diagnosed with early stage cervical cancer, can predict cervical residual disease and can lead to a conservative surgical approach.

**Methods**:
A cohort of 26 women who were diagnosed with invasive cervical cancer or AIS after LLETZ procedure, had HPV typing by PCR before and during the month after the LLETZ and were evaluated after the final surgery .13 of them were HPV negative and 13 were HPV positive after the LLETZ.

**Results**:
In all of the 13 women who were negative for HPV DNA testing after LLETZ, no residual invasive cancer was detected (Negative predictive value of 100%). In 12 of the 13 woman, who were positive for HPV DNA testing after LLETZ, there was residual cancer in the final surgery (10 with invasive cancer and 2 with CIN III/AIS). One HPV positive patient had no residual disease (sensitivity of 84.5%).

**Conclusions:**
HPV typing following LLETZ procedure is a parameter that should be considered in deciding the type of operation in women with early cervical cancer, especially in those wishing to preserve their fertility.

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Treatment of AIDS-related Kaposi's sarcoma (KS) in patients with low CD4 counts (<200 CD4 lymphocytes/mm$^3$) and extensive mucocutaneous or visceral disease (may be used as first-line systemic chemotherapy, or as second line chemotherapy in patients with disease that has progressed with, or in patients intolerant to, prior systemic chemotherapy comprising at least two of the following agents: a vinca alkaloid, bleomycin and standard doxorubicin (or other anthracycline)). **DOSAGE & ADMINISTRATION:** Administer as an intravenous infusion. See SmPC for instructions on preparation and special precautions for handling. Do not administer as a bolus injection or undiluted solution. **Breast/Ovarian cancer**: Administer 50 mg/m$^2$ intravenously once every 4 weeks for as long as the disease does not progress and the patient continues to tolerate treatment. **Multiple myeloma:** 30 mg/m$^2$ on day 4 of the bortezomib 3 week regimen as a 1 hour infusion given immediately after the bortezomib infusion, for as long as the patient responds satisfactorily and tolerates treatment. **AIDS-related KS:** 20 mg/m$^2$ intravenously every 2-3 weeks. Avoid intervals shorter than 10 days to prevent drug accumulations and possible increased toxicity. See SmPC for dose modification. Treatment should last for 2-3 months to achieve a therapeutic response and continued as needed to maintain response. **Children:** Not recommended in patients below 18 years of age. **Renal and Hepatic Impairment:** See SmPC for details. **CONTRAINDICATIONS:** Hypersensitivity to doxorubicin hydrochloride or any of the excipients. Must not be used in AIDS-related KS that may be effectively treated with local therapy or systemic alfa-interferon. **SPECIAL WARNINGS & PRECAUTIONS:** Do not use interchangeably with other doxorubicin hydrochloride formulations. Frequently monitor ECG for reduction of QRS which may indicate cardiac toxicity; consider monitoring of cardiac function (i.e. echocardiography or MUGA). Patients with history of cardiovascular disease should only receive Caelyx if the benefits outweigh potential risk. Caution in patients who have received prior anthracycline therapy, dosage adjustment may be needed. Myelosuppression should be monitored by periodic blood counts during treatment. Examine patients regularly for any oral discomfort/oral ulceration as very rare cases of secondary oral cancer have been reported. Infusion-associated reactions, resulting very rarely in convulsions, may occur. **SIDE EFFECTS:** *Very common:* Palmar-plantar erythrodysesthesia, alopecia, rash, myelosuppression (leukopaenia, anaemia, neutropaenia, thrombocytopaenia), nausea, vomiting, stomatitis, constipation, diarrhoea, anorexia, neuralgia, headache, asthenia, fatigue, pyrexia, mucositis NOS. *Common:* Pharyngitis, folliculitis, fungal infection, cold sores (non-herpetic), herpes simplex, herpes zoster, oral candidosis, oral moniliasis, upper respiratory tract infection, thrombocythemia, lymphopaenia, anxiety, depression, insomnia, allergic reaction, dehydration, electrolyte abnormalities (hypokalaemia, hyperkalaemia, hypomagnesaemia, hyponatraemia, hypocalcaemia), paraesthesia, somnolence, dizziness, peripheral neuropathy, syncope, lacrimation, blurred vision, conjunctivitis, retinitis, ventricular arrhythmia, cardiovascular disorder, vasodilation, hypotension, orthostatic hypotension, hypertension, flushing, phlebitis, epistaxis, dyspnoea, cough, abdominal pain, dyspepsia, esophagitis, gastritis, dysphagia, mouth ulceration, oral pain, glossitis, upper abdominal pain, dry skin, skin discolouration, bullous eruption, dermatitis, erythematous rash, pruritus, exfoliative dermatitis, allergic dermatitis, leg cramps, bone pain, musculoskeletal pain, breast pain, vaginitis, scrotal erythema, dysuria, oedema, influenza-like illness, infusion-associated acute reactions, weight loss, other laboratory abnormalities (increases in alkaline phosphatase, AST and bilirubin). **Refer to SmPC for other side effects. PREGNANCY: Do not use during pregnancy. Use effective contraceptive measures during treatment and for 6 months after stopping therapy. BREAST-FEEDING: Not recommended. INTERACTIONS:** Caution when giving any other cytotoxic agents, especially myelotoxic agents at the same time. **LEGAL CATEGORY:** Prescription Only Medicine. **MARKETING AUTHORISATION HOLDER:** JANSSEN-CILAG INTERNATIONAL NV, Turnhoutseweg 30, B-2340 Beerse, Belgium. **PRESENTATIONS, PACK SIZES, MARKETING AUTHORISATION NUMBERS & BASIC NHS COSTS:**

| PRESENTATIONS | PACK SIZES | MARKETING AUTHORISATION NUMBER(S) | BASIC NHS COSTS |
|---|---|---|---|
| 10ml vial | 1 vial | EU/1/96/011/001 | £360.23 |
| 10ml vial | 10 vials | EU/1/96/011/002 | £3602.30 |
| 25ml vial | 1 vial | EU/1/96/011/003 | £712.49 |
| 25ml vial | 10 vials | EU/1/96/011/004 | £7124.90 |

**FURTHER INFORMATION IS AVAILABLE FROM:** Janssen-Cilag Limited, 50 – 100 Holmers Farm Way, High Wycombe, Buckinghamshire, HP12 4EG UK.
Prescribing information last revised: 04/2016

**Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Janssen-Cilag Limited on 01494 567447 or at dsafety@its.jnj.com**

Date of preparation: April 2016

PHGB/CAE/0416/0001

1. Caelyx 2mg/ml concentrate for solution for infusion SmPC. Last accessed April 2016.

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# POSTER ABSTRACTS

## P-1

### DETERMINING A MECHANISM FOR SYNERGISTIC IMMUNO-CHEMOTHERAPY IN OVARIAN CANCER

*John Wahba[1], Marina Natoli[1], Lynsey Whilding[1,2], Ana Parente-Pereira[2], John Maher[2], J Richard Smith[1], Sadaf Ghaem-Maghami[1]*

*[1]Imperial College London, UK, [2]King's College London, UK*

**Introduction**
Ovarian cancer remains the most lethal of all gynaecological malignancies, with a poor 5-year survival. T cell immunotherapy has gained recent popularity with success in haematological malignancies. We have engineered chimeric antigen receptor (CAR) T cells which target ErbB on ovarian cancer cells (termed T4). In combination with low dose chemotherapy, we have shown a synergistic killing effect.

**Methods**
T cells from healthy volunteers were activated and transduced to express the T4 CAR. Ovarian cancer cell lines were treated with low dose Paclitaxel (0-20 nM) or Carboplatin (0-100 μM) followed by the addition of T4 cells. In-vivo work involved treating SCID Beige mice bearing intraperitoneal SKOV-3-Luc tumour xenografts with low dose chemotherapy followed by T4 cells. Bioluminescence was used to monitor tumour growth.

**Results**
Tumour cell survival was significantly reduced with combination chemo-immunotherapy, compared with either therapy alone with a combination index of <1. The effect was also confirmed with significant results in the in-vivo model. Chemotherapy appeared to render tumour cells more sensitive to killing by T cells with an upregulation in tumour cell caspases, death receptors and mannose-6-phosphate receptor (M6PR) on the tumour cell surface. Abrogation of these resulted in a reversal in this synergy.

**Conclusion**
We have demonstrated that chemotherapy is able to sensitise tumour cells to killing by T cells, and the effect is synergistic. Tumour cell surface upregulation of M6PR is likely to play a major role as it facilitates entry of perforins and granzyme B into cells, thereby mediating cytotoxic T cell killing.

P-2

## DEVELOPMENT OF A NOVEL BIOIMAGING ALGORITHM FOR DIRECT ASSESSMENT OF CHEMO-RESPONSE IN ADVANCED OVARIAN CANCER PATIENTS

*Alexandros Laios[1,2], Davide Volpi[3], Rajeev Kumar[4], Zoe Traill[5], Boris Vojnovic[3], Ahmed Ahmed[1,2]*

*[1]Nuffield Department of Obstetrics and Gynaecology & Weatherall Institute of Molecular Medicine, University of Oxford, UK, [2]Gynaecological Oncology Unit, Churchill Hospital, Oxford University Hospitals NHS Trust, UK, [3]CRUK/MRC Oxford Institute for Radiation Oncology, University of Oxford, UK, [4]Nuffield Department of Surgical Sciences, University of Oxford, UK, [5]Department of Radiology, Oxford University Hospitals NHS Trust, UK*

**Background**
In advanced ovarian cancer (AOC), evaluation of peritoneal surface disease by CT scan has proven unsatisfactory. Additional imaging of disseminated disease at laparoscopy could complement conventional imaging for estimation of chemotherapy response. We developed an image analysis algorithm and evaluated its use in making accurate measurements of peritoneal metastases in comparison to Response Evaluation Criteria In Solid Tumours (RECIST) criteria.

**Methods**
An integrated, electronic ovarian cancer database has been established for prospective recording of demographic, clinical and specimen data. The database also stores videos and images recorded at the time of laparoscopy. A software tool that employs a custom ImageJ macro-based algorithm was developed to estimate lesion size by manual image segmentation. Representative snapshots from videolaparoscopies were selected so that an object of known dimension, such as a surgical instrument was located on the same plane to the lesion of interest. An image analysis algorithm assessed lesion size by converting image pixels into unit length. The software tool was tested as a proof-of-principle in a patient with two peritoneal deposits.

**Results**
Image analysis of representative laparoscopic snapshots before and after 3 cycles of neoadjuvant chemotherapy revealed an average tumor nodule response ratio (TNRR) of 40% (partial response). Axial CT evaluated the peritoneal deposits and confirmed partial chemo-response according to the RECIST, in concordance to our algorithm.

**Conclusion**
Direct assessment of chemotherapy response in AOC patients using this novel anatomical analysis as an adjunct to RECIST is feasible and appears unrelated to the size of metastases.

P-3

## ARE OLDER PATIENTS WITH OVARIAN CANCER RECEIVING APPROPRIATE TREATMENT?

*Helen Fitzgerald*[1], *Ricky Frazer*[1,2], *Louise Hanna*[1], *Emma Hudson*[1], *Rachel Jones*[1]

[1]*Velindre Cancer Centre, Cardiff, UK,* [2]*Singleton Hospital, Swansea, UK*

**Background:**
In 2012 the Department of Health published "The impact of patient age on clinical decision-making in oncology" which highlighted that, despite clinicians' perceptions, chronological age remained a significant determining factor in planned treatment intensity.

**Objectives:**
To determine whether equity of treatment is offered to older patients with ovarian cancer in Velindre Cancer Centre (VCC).

**Methods:**
Retrospective audit of electronic case records (CANISC) of all patients with epithelial ovarian malignancies referred to VCC between June 2007 and June 2012.

**Results:**
Of 528 patients eligible for inclusion, 30% were aged >70 years. 77% of patients >70 years old had advanced (stage III-IV) disease (68% of patients <70). 84% of patients aged >70 were offered chemotherapy (93% if <70). For stage >II, in patients >70, 72% received single agent carboplatin (36% if <70). Where documented, patient choice, performance status and comorbidities were recorded more frequently than chronological age as reasons why single agent rather than combination chemotherapy was given.

**Conclusions:**
Older patients with ovarian cancer treated in VCC are offered high rates of chemotherapy. Older patients are more likely to have advanced disease and less likely to receive combination chemotherapy than younger patients, but where documented, performance status, comorbidity and patient choice are more likely to influence treatment decision than chronological age. Recommendations from the audit include clearer documentation of factors influencing treatment decisions and consideration of appropriate validated assessment tools to evaluate older patients with cancer.

**References:**
DOH 2012. The impact of age on clinical decision-making in oncology

P-3A

## PHASE 2 STUDY OF ANASTROZOLE IN WOMEN WITH RECURRENT ESTROGEN(ER)/PROGESTERONE (PR) POSITIVE ENDOMETRIAL CANCER: THE PARAGON TRIAL

*Richard Edmondson[1], Linda Mileshkin[2], Rachel O'Connell[3], Katrina Sjoquist[3], David Cannan[3], Reema Jyothirmay[4], Philip Beale[5], Anthony Bonaventura[6], Jeffery Goh[7], Marcia Hall[8], Andrew Clamp[9], John Green[10], James Scurry[6], Michael Friedlander[11]*

*[1]University of Manchester, UK, [2]Peter MacCallum Cancer Centre, Melbourne, Australia, [3]NHMRC Clinical Trials Centre, University of Sydney, Australia, [4]Maidstone Hospital, Kent, UK, [5]Chris O'Brien Lifehouse, Sydney, Australia, [6]Calvary Mater Newcastle, Australia, [7]Royal Brisbane Women's Hospital, Australia, [8]Mount Vernon Cancer Centre, Middlesex, UK, [9]The Christie NHS Foundation Trust, Manchester, UK, [10]The Clatterbridge Cancer Centre, Liverpool, UK, [11]Royal Hospital for Women/Prince of Wales Hospital, Sydney, Australia*

**Background:**
Many endometrial cancers express hormone receptors and may respond to hormonal therapy although the impact on quality of life is unknown. The aim of PARAGON is to investigate anastrozole, in patients (pts) with various ER/PR positive gynaecological cancers in a series of 7 individual phase 2 studies embedded in a "basket" protocol, with recruitment to the endometrial sub-group complete.

**Methods:**
Single-arm, open label trial of anastrazole, 1 mg/d in pts with ER and /or PR positive hormone naive endometrial cancer. Pts were treated until progressive disease (PD) or treatment cessation for toxicity. Primary end-point was clinical benefit (response + stable disease) at 3 months. Secondary endpoints include progression-free survival (PFS), quality of life (assessed using the EORTC QLQ-C30) and toxicity.

**Results:**
Clinical benefit rate in 82 evaluable pts at 3 months was 44 % (95% CI:33.7-54.7%) with a RECIST partial response in 6 (7.3%). Median PFS was 3.2 months (95% CR: 2.8-5.4). Median duration of clinical benefit was 5.6 months. Treatment was well tolerated with toxicity as expected. Pts achieving a 3-month clinical benefit were significantly more likely than progressors to achieve clinically significant improvements in several QOL domains by 2 months including: emotional functioning (39 vs 6%:p = 0.002), cognitive functioning (45 vs 19%:p = 0.021), fatigue (47 vs19%:p = 0.015) and global health status (42 vs 9%:p = 0.003).

**Conclusion:**
44% of patients with ER/PR positive endometrial cancer derived clinical benefit from anastrozole which was associated with a significant improvement in multiple domains of QOL.

P-4

## A POPULATION BASED TWENTY-FIVE YEAR FOLLOW UP OF THE INCIDENCE OF ENDOMETRIAL CARCINOMA IN WOMEN HAVING ENDOMETRIAL DESTRUCTION IN NORTHERN SCOTLAND: IS ENDOMETRIAL DESTRUCTION SURGERY A PROTECTIVE TOOL FOR ENDOMETRIAL CARCINOMA?

*Emmanouil Kalampokas, Sarah McRobbie, Fiona Payne, David Parkin*

*Aberdeen Royal Infirmary, UK*

Endometrial destruction (ED) surgery has been employed as an alternative choice for hysterectomy for the treatment of heavy menstrual bleeding. It was fairly slow to get established for a number of reasons, and the most important of these was the view that women would not be protected from endometrial cancer and if they did get endometrial cancer it would present late and be fatal.

Uterine endometrial cancer (EC) is the most common gynecologic malignant lesion, with an overall lifetime risk of 2.88% for all Caucasian women. The true occurrence of EC after ED has not been established. The main aim of our study was to identify the risk of endometrial cancer after endometrial destruction.

To answer this we performed a retrospective study in Aberdeen Royal Infirmary (ARI). Women were identified from anaesthetic books and personal theatre diaries between February 1990 and December 1997. Finally, 901 women formed our study group. These women have been followed up until 2015 using the pathology laboratory report database.

If a woman had a hysterectomy for any reason her risk was censored at that date. The observed incidence of EC was 2 cases in 901 patients (0.22%). This gives a risk of developing endometrial cancer 18-25 years after ED of 17.3/100,000 women years.

We are awaiting complete matching for each woman from Scottish Information Services Division but it seems that endometrial destruction for benign reasons greatly reduces the occurrence of endometrial cancer. This comparison of observed incidence versus expected incidence will be presented

P-6

## A RETROSPECTIVE STUDY OF OUTCOMES FOLLOWING PELVIC EXENTERATION SURGERY FOR THE TREATMENT OF RECURRENT GYNAECOLOGICAL MALIGNANCY IN A SINGLE REGIONAL TERTIARY CENTRE

*Rebecca Howett, Scott Fegan, William Anderson, Param Mariappan*

*Western General Hospital, Edinburgh, UK*

**Introduction:**
The aim of this study was to describe outcomes following radical pelvic exenteration surgery in the treatment of recurrent gynaecological malignancy.

**Methods:**
Retrospective data were collected on patients undergoing pelvic exenteration surgery at the Western General Hospital, Edinburgh, between June 2006 and February 2015.

**Results**:
Thirty-three patients were suitable for inclusion in this study. Mean age was 59.8 years (range 35.0 years to 81.8 years). Primary sites of cancer were: vulva 15.2% (5/33), vagina 15.2% (5/33), cervix 24.2% (8/33), uterus 15.2% (5/33), ovary 24.2% (8/33), other 6.0% (2/33). Types of surgery were: anterior pelvic exenteration 45.5% (15/33), posterior pelvic exenteration 24.2% (8/33), total pelvic exenteration 30.3% (10/33). Complications greater than or equal to grade III in the Clavien-Dindo Classification of Surgical Complications were encountered in 27.3% (9/33). Recurrence of cancer occurred in 39.4% (13/33) of patients, leading to death in 61.5% (8/13), with the remaining 38.5% (5/13) currently alive but being managed palliatively. Death due to recurrence of cancer represented 72.7% (8/11) of total deaths. An additional 3 deaths (27.3%, 3/11) were due to other causes. Mortality at thirty days was 3.0% (1/33). In patients who have had at least five years of follow-up, mortality rate was 68.8% (11/16).

**Conclusions:**
Data from this single centre study of outcomes following pelvic exenteration surgery suggest reasonable complication rates with low thirty day mortality rate but high five year mortality rate.

P-7

## ANURIA CAUSED BY NON-MECHANICAL URETERIC OBSTRUCTION FOLLOWING LAPAROSCOPIC HYSTERECTOMY

*Madeleine Macdonald, Alan Gillespie*

*Sheffield Teaching Hospitals NHS Foundation Trust, UK*

**Introduction**
Postoperative anuria strikes fear into the heart of gynaecologists; ureteric trauma or occlusion must be considered. If excluded non-mechanical causes should be sort. 'Reflex anuria' has been proposed as a rare cause.

We present a case of anuria following laparoscopic hysterectomy and bilateral salpingo-oophorectomy (TLH) with review the literature regarding 'reflex anuria'.

**Case**
A very fit 85 year old lady underwent a TLH for endometrial cancer. She had a single kidney with normal renal function.

The procedure was completed satisfactorily; however in recovery she became anuric despite fluids and frusemide. Her creatinine increased from 78 to 187 over 12 hours. A nephrostomy was inserted for presumed ureteric obstruction. A good urine output ensued and renal function improved. When a stent was passed the ureter was found to be patent. She went on to make a good recovery.

**Discussion**
Prompt management of anuria is essential to prevent permanent renal impairment. Post-hysterectomy, ureteric trauma and obstruction must be investigated. Reflex anuria; no urine output in response to irritation of a kidney or ureter in the absence of mechanical obstruction, may be due to vascular or neurogenic stimuli, causing ureteric spasm, so transient that spontaneous diuresis may occur before it is recognised. Some degree of ureteric spasm may occur in many patients undergoing pelvic surgery but with a single kidney, the effect was more profound.

**Conclusion**
We present an unusual case of anuria due to non-mechanical obstruction. Factors including alterations in renal blood flow as well as reflex anuria should be considered.

P-8

## A CASE REPORT OF PRIMARY FALLOPIAN TUBE CANCER WITH NORMAL CA125 LEVEL, RARE BUT RECOGNIZABLE SOLELY ON MR IMAGING

*Gordon Narayansingh[1], Brett Winter- Roach[1], Michael Smith[1], Richard Slade[1], Meghna Datta[1], Christos Lavazzo[1], Sattu Sukumar[2]*

*[1]The Christie, Manchester, UK, [2]University South Manchester Hospitals, Wythenshawe, UK*

**Background**:
Only 1%of all gynaecological cancers arise from Fallopian tube and less than 5 % are diagnosed preoperatively. There are no unique biochemical and clinical markers and the overlap with primary ovarian cancer contributes to this indiscretion.

**Objective**:
We present a case that was identified preoperatively as Fallopian Tube Cancer solely on Magnetic Resonance Imaging.

**Case Description**:
A 68 year old presented with a 2 week history of solely postmenopausal bleeding. Pelvic ultrasound noted a left ovarian cyst 22 x19 mm and a right septated ovarian cyst 20 x 40x 26 mm with a solid element and possible hydrosalpinx. All tumour markers were normal. A subsequent MR scan found the right fallopian tube to have radiological features suggestive of Primary Fallopian Tube cancer and the ovarian cysts were felt to be benign. Based on the MR finding only she underwent a total abdominal hysterectomy, bilateral salpingo- oophorectomy, omentectomy and right pelvic and para aortic lymph node dissection.

The histopathology revealed a FIGO stage 1A High Grade serous adenocarcinoma of the right Fallopian tube, confined solely to the lumen. There was no evidence of metastatic disease in the other specimens and she has commenced adjuvant chemotherapy.

**Conclusion:**
This experience highlights the value of precise radiological reporting of disease of the Fallopian tube. Postmenopausal women who are found to have a dilated fallopian tube on ultrasound under any circumstances should be referred for MR scan to determine if cancerous features exist leading to early detection and appropriate surgical intervention

P-9

## "TO SCREEN OR NOT TO SCREEN (AT THE AGE OF 20) THAT IS THE QUESTION"

*Stephanie Baxter*[1,2], *Jed Hawe*[1]

[1]*Countess of Chester Hospital, UK,* [2]*Liverpool University, UK*

This retrospective audit of 51 patients diagnosed with cervical cancer at the Countess of Chester Hospital from April 2012 - September 2015 was undertaken due to a perception of increasing incidence, in particular in women under 30.

The audit identified the most common age range for cervical cancer from this sample is 26-30 years of age compared to a peak incidence age range of 41-45 in the 2007 audit. Overall, 59% of the patients were ≤45 years old. Additionally, 78% of cancers were squamous cell carcinoma. Only 47% of patients had a complete smear history, and incomplete smear history correlated with a more advanced stage of disease at diagnosis. Further analysis of 13 patients screened after the increase in minimum age of invite showed that 10 patients (77%) presented on a screening pathway with 6 (50%) having invasive cancer detected on their first smear. Eight women had a complete smear history, 4 incomplete and 1 had never had a smear. Eight and 5 cases were FIGO stage 1a1 and 1b1 respectively. Treatments included 9 patients undergoing loop or knife cone, 1 radical trachelectomy, 2 radical hysterectomy, and 1 radical chemoradiation.

We conclude that the increased incidence in 25-29 year olds may be due to missed opportunities for pre-invasive detection following the increase in minimum age of screening and women not attending their first smear at 25. Local data correlates with National data and consideration should be given to lowering the age of first smear especially in the non-HPV vaccinated population.

P-11

## THE IMPACT OF COMPLETE CYTOREDUCTIVE SURGERY ON 2 YEAR RECURRENCE AND MORTALITY IN OVARIAN CANCER AT THE SOUTH EAST WALES GYNAECOLOGICAL ONCOLOGY CENTRE

*Paul Wallace, Ellie Price, Gareth Rowlands, Ken Lim, Robert Howells, Aarti Sharma*

*University Hospital of Wales, Cardiff, UK*

**Aims and Objectives**
To assess the proportion of ovarian cancer operations performed in a tertiary centre where complete cytoreduction was achieved. To assess the 2 year recurrence and mortality difference between those where complete cytoreduction was achieved versus those with any residual disease.

**Method**
Retrospective case note and pathology review of 103 women with ovarian cancer who presented to the South East Wales Gynaecological Oncology Centre between 1st January 2012 and 31st December 2012.

**Results**
Of the 103 women, 68 underwent surgery for ovarian cancer. The age range was 12-88 years. Of the 68 operations, 77% were primary procedures and 23% were interval debulking procedures. Of those who underwent surgery 34.8% were stage 1, 7.4% stage 2, 50.5% stage 3 and 7.2% stage 4.

52 women (76.4%) had complete resection at surgery (28/29 with stage 1-2 disease and 24/39 with stage 3-4 disease). Of those with complete resection 2 year recurrence was 26.8% (45.8% in those with stage 3-4 disease) and 2 year mortality was 21% (4% in stage 1-2 disease, 41.6% in stage 3-4 disease). Progression occurred in 75% of those with any volume of residual disease, with 68.7% 2 year mortality.

**Conclusion**
Achieving complete cytoreduction in advanced ovarian cancer (stage 3-4) demonstrates both lower 2 year recurrence and mortality rates. However there is no observable difference in progression or survival rates where there is any residual macroscopic disease regardless of size. Prospective larger studies are required to validate these findings.

## P-12

### OUTCOMES OF CLEAR CELL OVARIAN CARCINOMA: 7 YEARS EXPERIENCE IN A TERTIARY CENTRE

*Sarah Wali, Srdjan Saso, Benjamin Jones, John Wahba, Rebecca Pugh, Jayanta Chatterjee*

*West London Gynaecological Cancer Centre, Hammersmith Hospital, Imperial College Healthcare NHS Trust, London, UK*

**Background**
Ovarian clear cell carcinoma (OCCC) represents a small proportion (<5%) of epithelial ovarian cancers and has its own unique molecular, pathological and clinical characteristics. It has a poor prognosis and is notoriously difficult to treat in advanced disease due to poor chemo-sensitivity.

**Methods**
Utilizing surgical, histological and MDT records, we identified all ovarian clear cell malignancies between the years 2007 and 2013 inclusive, at our tertiary cancer referral center. We accessed NHS Spine records in 2015 for mortality data. In the 7-year period we identified 34 women with OCCC histology.

**Results**
Majority of patients with OCCC presented at an early stage (71% at Stage I/II Versus 29% Stage III/IV). Majority of these patients had raised CA-125 (76%). Complete macroscopic disease clearance was achieved in 50% of the patients with advanced disease, following primary surgery. 71% of patients received chemotherapy within 8 weeks of surgery. Majority of the patients received the conventional chemotherapy of 6 cycles of carboplatin and paclitaxel (71%). PFS and OS were worse for patients with advanced disease.

**Conclusion**
Our data reflects the data from the literature and our practices match current best practice. Women with early stage OCCC who were fully staged had comparable prognosis to other histological sub-types of ovarian cancer. The limitation of our study is small number of cases and missing data. Recent population based study confirm poorer prognoses for advanced stage of OCCC compared to other subtypes and stresses need for sub-type specific research and treatment within ovarian cancer.

## P-13

### SURGICAL SITE INFECTION IN GYNAECOLOGY ONCOLOGY: A MULTICENTRE NATIONAL AUDIT

*Rachel O'Donnell, Ketan Gajjar, George Angelopoulos, Melissa Bradbury, Claire Newton, Wendy MacNab, Amundha Thangavelu, Elaine Craig, James Bierne, Sian Taylor, Mark McComiskey, Eva Myriokefalitaki, Ioannis Biliatis, Kavitha Madhuri, Louise Wan*

*Surgical Gynaecological Oncology Research Network, UK*

**Background**
Data describing the incidence of surgical site infection (SSI) in women undergoing open gynaecological oncology procedures is lacking. The rate is thought to be high owing to the inherently contaminated nature of procedures involving entry into the genital or gastrointestinal tracts.

**Aims**
To understand the incidence and risk factors for SSI in the gynaecological oncology population.

**Methods**
A prospective multi-centre audit of women undergoing open surgery for suspected or confirmed gynaecological malignancy across 12 UK tertiary centres during an 8-week period September- November 2015. Patient demographics, comorbidity, surgicopathological and wound complication data up to 30 days postoperatively was collated.

**Results**
339 women underwent laparotomy during the audit period, 200 (59%) of which were for ovarian cancer. The median surgical radicality score (Chir et al) was 2 (0-17) and 55 (16%) patients underwent bowel resection.

A clinical diagnosis of SSI was made in 54 (16%) patients, of which 32 (59%) were confirmed microbiologically and 48 (89%) received antibiotic treatment. BMI, ASA grade, and diabetes were significantly associated with SSI, (p=0.0001; p=003; p=0.009, respectively). 50/54 (92.6%) patients with SSI had delayed discharge from hospital and 6/23 (26.1%) patients had adjuvant treatment delayed.

**Conclusions**
SSI not only has a significant impact on recovery but has the potential, through delay in initiating adjuvant treatment, to impact upon overall cancer specific survival. SGRN have proposed a multicentre RCT using the PICO vacuum pump dressing in patients undergoing laparotomies for gynaecological cancers to ascertain if this can significantly reduce the incidence of wound infection.

P-14

## THEATRE EFFICIENCY IN A TERTIARY CENTRE GYNAECOLOGICAL ONCOLOGY THEATRE LIST: THE SOUTH EAST WALES GYNAECOLOGICAL ONCOLOGY CENTRE EXPERIENCE

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*University Hospital of Wales, Cardiff, UK*

**Aim:**
To assess adherence to national standards of theatre efficiency (TE) time (95%) in a tertiary gynaecological oncology list. To evaluate factors influencing anaesthetic time and cancellations.

**Methods:**
Retrospective database analysis of operations undertaken between 1st April to 30th September 2015 at University Hospital of Wales, Cardiff. We analysed times for patient transfers between ward-theatre, anaesthesia and ASA physical status, surgical time, transfer to recovery/ward, cancellation reason and calculated TE (anaesthetic+operating time/total actual theatre time).

**Results:**
242 women underwent operations on 81 operating lists (9 hours/list). The average times for patient transfer from ward to theatre was 30 minutes(range 8-65), anaesthesia 38 minutes(range 5-125), surgery 101 minutes(range 7-452) and transfer back to recovery/ward 184 mins(range 6-556).
In 109(45%) patients, transfer to theatre time and anaesthetic time exceeded the surgical time (cases: minor 68, intermediate 15, major 26). The ASA grade was one in 21%, two in 46%, three in 30% and four in 3%.
Minor procedures placed towards end of list were cancelled in 22.2% cases (list overrun, lack of recovery staff).
Adherence to 95% TE occurred in 18% of lists, 70-94% TE in 61% and <70% TE in remaining lists (21%).

**Conclusion:**
Currently we do not meet national standards for TE with transfer and anaesthetic time exceeding the surgical time in 45% of cases. However, a third of our population has a very poor ASA status. To avoid cancellations, minor procedures should be listed first. Efforts should be made to improve theatre transfer times and staffing to improve TE.

## P-15

### A NOVEL STRATEGY OF THERAPEUTIC LAPAROSCOPY TO ASSIST CONCEPTION IN SELECTED YOUNG WOMEN WITH INFERTILITY SECONDARY TO PSEUDOMYXOMA OF APPENDICEAL ORIGIN

*Lisa Sheehan, Akash Mehta, Saladin Sawan, Sanjeev Dayal, Faheez Mohamed, Brendan Moran, Tom Cecil*

*Peritoneal Malignancy Institute (PMI), Basingstoke & North Hampshire Hospital, UK*

**Background**
Infertility can be a presenting feature of pseudomyxoma peritonei (PMP) of appendiceal origin. Cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) is the optimal treatment for PMP but involves bilateral salpingo-oophorectomy, a concept that young women are reluctant to consider. An experimental approach to preserving fertility in selected patients is reported.

**Methods**
Young women with PMP seeking to maintain fertility underwent laparoscopy, appendicectomy and pelvic mucinous evacuation and washout with copious irrigation. These four represented 1.5% of 271 female patients undergoing surgery for PMP in this unit between Jan 2012 and Jan 2015.

**Results**
Four women (aged 28 - 35 years) with PMP were referred to a national PMP referral unit; three had longstanding infertility. All had pelvic mucinous disease on radiological imaging and declined CRS and HIPEC.

Diagnostic laparoscopy, appendicectomy to confirm histology and pelvic lavage was performed until the ovaries and pelvis were macroscopically clear.

All four successfully conceived subsequently and gave birth to full term healthy babies with only one requiring In Vitro Fertilisation. Final histology demonstrated a low-grade appendiceal mucinous neoplasm in all; two patients had acellular mucin and two had low-grade mucinous carcinoma peritonei with cellular mucin.

Currently, after 16 - 35 months follow-up, all women are well with no radiological evidence of disease recurrence.

**Conclusion**
Therapeutic laparoscopy in selected patients may facilitate conception in young women with low-grade PMP. Long-term follow-up by sequential imaging is ongoing to detect residual or progressive disease.

P-17

## MANAGEMENT OF ADNEXAL MASSES IN CHILDREN: A REVIEW OF INSTITUTIONAL PRACTICE PATTERNS

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**Aim**
Single centre retrospective analysis of management of girls who underwent removal of adnexal tissue.

**Method**
For the period 2008-2015, patients <18 years who underwent surgery with removal of histologically confirmed ovarian or fallopian tube tissue were identified. Data are given as percentages or medians (interquartile range), with differences in outcome measures assessed by chi-square test. P value <0.05 was significant.

**Results**
Forty-eight patients underwent surgery for adnexal masses; 22 (46%) under gynaecology and 26 (54%) under paediatric surgery/urology. Age at surgery was 15.0 years (12.4-16.3). All underwent pre-operative imaging. Forty (83%) had at least one tumour marker assay (hCG, AFP, CEA, LDH or Ca125).

Twenty-four (50%) procedures were laparoscopic with 2 converted to open. Thirty-one (65%) underwent cystectomy and 17 (35%) underwent salpingectomy +/- oophorectomy. Histopathology identified 26 (54%) benign and 3 (6%) malignant ovarian neoplasms, with 14 (29%) benign cysts and 5 (10%) other specimens of adnexal tissue.

Eleven of 26 patients with a benign tumour (42%) underwent procedures resulting in loss of an ovary +/- fallopian tube; 9 of these (82%) were under paediatric surgery/urology care. Of the remaining 15 who underwent ovarian conserving surgery, 12 (80%) were under gynaecology care (p=0.0018).

**Conclusion**
Patients with a benign tumour were significantly more likely to undergo ovary-preserving surgery under gynaecology care than when under paediatric surgery/urology. An MDT approach involving gynaecology and paediatric surgical specialties would be valuable in assessing the merits of ablative or conservative surgery in each case.

P-18

## PLATELET TO LYMPHOCYTE RATIO AND THROMBOCYTOSIS ARE NOT PREDICTORS OF SUCCESSFUL PRIMARY CYTOREDUCTIVE SURGERY NOR OVERALL SURVIVAL IN OVARIAN CANCER

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**Introduction:**
Management of ovarian cancer comprises primary debulking surgery (PDS) or neoadjuvant chemotherapy with interval debulking surgery (NACT/IDS). The aim of surgery is to achieve complete cytoreduction and poorer OS follows PDS with suboptimal cytoreduction or IDS with optimal/suboptimal debulking. High platelet to lymphocyte ratio (PLR) and thrombocytosis may predict poor prognosis. This retrospective analysis of 197 cases examined the relationship between PLR and thrombocytosis with OS and cytoreduction.

**Methodology:**
Preoperative PLR and platelet count were evaluated in all women undergoing surgery for ovarian cancer at St Mary's Hospital from 2013-2015. 'Successful' cytoreductive surgery was defined as PDS complete or optimal debulking and NACT/IDS achieving complete debulking.
Analysis used ROC curve and log rank test, with a PLR cut off defined as >200. Thrombocytosis was defined as >400x109/L.

**Results:**
There was a clear survival difference between women who had successful cytoreductive surgery versus unsuccessful surgery (P=0.0007). 69 of 197 women (35%) had a PLR >200, and 19.8% of women had thrombocytosis, however neither were found to confer statistically significantly worse OS than those with PLR<200 or normal platelet count (P=0.2034 and 0.95). Neither PLR nor thrombocytosis significantly predicted successful cytoreduction (AUC = 0.5879, 0.5413 respectively).

**Conclusion**:
Neither a raised PLR nor thrombocytosis are significant predictors of cytoreductive success and in this population, in contrast to the literature, neither can predict overall survival.

P-19

## HISTOPATHOLOGICAL CORRELATION OF SPLENIC DISEASE WITH RADIOLOGICAL AND SURGICAL FINDINGS IN DISSEMINATED MULLERIAN ADENOCARCINOMA?

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**PURPOSE OF INVESTIGATION:**
To determine the positive predictive value (PPV) of both preoperative radiological and intraoperative identification of splenic disease in cases of advanced and recurrent gynaecological malignancy

**MATERIALS AND METHODS:**
A retrospective study of all splenectomies performed during surgeries for disseminated gynaecological malignancy at the Pan Birmingham Gynaecological Cancer Centre between 21st May 2008 and 31st January 2015.

**RESULTS:**
41 women were identified, most of whom had stage 3C, high grade, serous Mullerian adenocarcinomas. 37 (90.2%) spleens were removed because of intraoperative suspicion of disease and the remaining 4 (9.8%) were removed following inadvertent injury. No spleens were detected radiologically that did not have obvious macroscopic disease. The PPV for the preoperative and intraoperative detection of splenic disease were 88.9% and 91.9% respectively. Half of the spleens removed following inadvertent injury had disease identified following histopathological examination.

**CONCLUSION:**
Intraoperative identification of splenic disease correlates well with histopathological examination. However, in 50% of splenectomies performed following inadvertent trauma and where disease was not suspected, metastases were identified.

P-20

## SHARED PRIORITY SETTING TO SHAPE THE RESEARCH AGENDA IN ENDOMETRIAL CANCER IN THE UK

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**Background:**
Endometrial cancer (EC) is the most common gynaecological cancer and its incidence is rising. Advances in care have not compensated for the increasing numbers of women affected and more women are dying from EC than ever before. Yet, there remains a lack of research activity, funding and public awareness about EC. The Womb Cancer Alliance was established to engage patients, carers and healthcare professionals to identify the top 10 most important unanswered research questions in this field.

**Methodology:**
Using a modified nominal group methodology established by the James Lind Alliance, patients, carers and healthcare professionals were surveyed to identify important unanswered research questions relating to EC, and to prioritise these through a series of surveys and stakeholder meetings.

**Results:**
419 respondents, including 211 patients and carers, provided 786 suggestions. These were checked against existing research and duplicates removed. 202 unique unanswered research questions were identified as a result. 253 individuals, including 108 patients and carers, prioritised the 54 most commonly asked questions and 30 of these were taken forward to a stakeholder consensus meeting. A series of discussions led 27 stakeholders to agree upon the top ten research questions. These included raising public awareness, aetiology, personalised risk scoring, specialist referral for abnormal bleeding, novel and personalised treatment strategies, prognostic and predictive biomarkers, and psychological issues.

**Conclusion:**
We hope that identifying the top 10 research questions will galvanise researchers, healthcare professionals and the public to work together to deliver research to improve the care of women with EC.

P-21

## DIAPHRAGMATIC PERITONECTOMY VS. FULL THICKNESS RESECTION WITH PLEURECTOMY DURING VISCERAL-PERITONEAL DEBULKING (VPD) IN 100 CONSECUTIVE PATIENTS WITH STAGE IIIC-IV OVARIAN CANCER: A SURGICAL-HISTOLOGICAL ANALYSIS

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**OBJECTIVE:**
To compare the surgical and histological outcomes of diaphragmatic peritonectomy vs. full thickness resection with pleurectomy during Visceral-Peritoneal Debulking.

**METHODS:**
Service evaluation protocol. All patients with stage IIIC-IV ovarian cancer who had diaphragmatic surgery between April 2009 and November 2013 were included. Clinical notes and histology reports were reviewed. Additional histology sections were undertaken. Patients were divided in Groups 1 (peritonectomy) and 2 (pleurectomy). The outcomes of interest were: surgical (intra- and post-operative morbidity, pulmonary morbidity, mortality, rate of complete resection) and histological (rate of diaphragmatic peritoneum, muscle and pleural involvement, rate of microscopic diaphragmatic free margins).

**RESULTS:**
Sixty four patients had diaphragmatic peritonectomy (Group 1), 36 patients full thickness diaphragmatic resection with pleurectomy (Group 2). There was no significant difference in the rate of mortality (3% in both groups), overall intra- and post-operative morbidity (32.8% vs. 38.8%), pulmonary morbidity (9.3% vs. 19%, P=0.14). Histology showed tumor invasion in the diaphragmatic peritoneum (96%), muscle (28%) and pleura (19.4%). Microscopic free margins were seen in 86% vs. 92% in Groups 1 and 2.

**CONCLUSIONS**:
Our study demonstrated that, in patients with ovarian cancer, diaphragmatic involvement extends to the muscle in almost 30% and to the pleura in 20% of the patients. Overall and specific morbidity was not significantly different when comparing peritonectomy vs. pleurectomy.

P-22

## SENTINEL LYMPH NODE MAPPING IN CERVICAL AND ENDOMETRIAL CANCER USING ICG-NIR FLUORESCENCE

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**Introduction:**
Sentinel lymph node biopsy is finding increasing utility in gynaecological cancer surgery. Though not yet standard practice, sentinel node biopsy has potential advantages for women with cervical and endometrial cancer. The role of pelvic lymphadenectomy in endometrial cancer is uncertain and studies suggest that up to 10% of sentinel nodes lie outside of the routinely dissected nodal basins. Several centres have published case series demonstrating high sentinel lymph node detection rates and low false negative rates. Most large studies have used combined radiolabelled nano-colloid and blue dye for detection of the sentinel nodes. Here we present the first series from a UK regional cancer centre using indocyanine green-near infrared (ICG-NIR) endoscopy for detection of sentinel nodes in women with early stage endometrial and cervical cancer.

**Methods:**
Women with clinically early stage disease undergoing retroperitoneal lymphadenectomy as part of their surgical management were consented for sentinel node mapping and excision biopsy. Where indicated, systematic lymphadenectomy was performed following excision of the sentinel nodes. Sentinel nodes and lymphadenectomy specimens were examined separately.

**Results:**
Bilateral sentinel node detection was achieved in over 75% of patients. Unilateral detection was achieved in over 85% of cases. To date there were no false negatives.

**Conclusions:**
Sentinel lymph node biopsy using ICG-NIR has a detection rate comparable to current standard techniques. Advantages over the combined techniques include total intra-operative administration of the dye and rapid detection times. Strict adherence to previously described protocols will be required if sentinel node biopsy is to replace systematic lymphadenectomy.

P-23

## OUTCOMES OF ULTRA-RADICAL SURGERY FOR ADVANCED OVARIAN CANCER IN THE HUMBER AND YORKSHIRE COAST CANCER NETWORK (HYCCN)

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**BACKGROUND:**
Castle Hill Hospital is the tertiary referral centre for the HYCCN, serving a population of 1.1 million with an average of 76 newly diagnosed ovarian cancer cases annually. We offer a comprehensive surgical service in collaboration with upper/lower GI surgeons for primary and interval debulking.

**Objectives:**
To evaluate the effectiveness and morbidity associated with ultra-radical surgery in the management of advanced stage ovarian cancer from 2012 to 2015 (n=13)

**RESULTS:**
In this cohort, the average age was 66 (48-82) years who either had stage III(85%) or stage IV (15%) disease.

Optimal debulking was achieved in 77% with no major postoperative complications or death within a year of surgery. 2 patients (15%) relapsed within a year.

92% needed bowel resection (8% hemicolectomy, 85% multiple bowel resection), 46% had Diaphragmatic resection, 23% had peritonectomy and 15% needed resection of liver metastases and cholecystectomy.

2 patients (15%) had intraoperative vascular and visceral injury, which were repaired at the time of the procedure, with no long-term consequences.

No patient had persistent postoperative pyrexia, returned to theatre, or had pleural effusion.

The average operative time was 4h 23m, the average hospital stay was 6.6 days.

The histology was adenocarcinoma (84.6%); sarcoma (7.69%) and clear cell carcinoma(7.69%).

All patients received chemotherapy within 4 weeks of surgery.

**CONCLUSION:**
Our results show that Ultra-radical surgery for advanced ovarian cancer performed in this unit is safe, with acceptable optimal debulking rates.

P-24

## A REVIEW OF THE MANAGEMENT AND OUTCOMES OF UTERINE CARCINOSARCOMA AT ONE UK GYNAECOLOGICAL ONCOLOGY CENTRE

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**Introduction**
Uterine carcinosarcoma (UCS) is an aggressive tumour accounting for up to 5% of uterine malignancies. Even at an early stage it has a significantly worse prognosis than the equivalent stage high-grade endometroid adenocarcinoma with overall five-year survival rates of 33 – 39%.

This study assesses management of patients with UCS at a single UK tertiary gynaecological oncology centre over a 13 year period.

**Method**
A retrospective cohort study of all women registered at the Sheffield Gynaecological Cancer Centre with UCS between January 1999 and December 2012 was undertaken. Information collected included age, date of diagnosis, presenting symptoms, primary management, adjuvant therapy, survival (months), date and cause of death. Data was analysed using *Microsoft Excel*™ .

**Results**
Over the time period 123 patients were registered, four were excluded due to incomplete data. Median age at diagnosis was 70 years; only three women were premenopausal. The majority presented with postmenopausal bleeding (81%) and just over half (55%) had stage 1 disease. Primary treatment for most patients (87%) was hysterectomy, bilateral salpingo-oophorectomy and washings. Only 14 underwent pelvic lymphadenectomy or lymph node sampling. Adjuvant therapy was received by 27%, 81% and 64% of patients with stage 1, stage 2 and stage 3 disease respectively. Five-year survival for each stage was; 41% (1), 31% (2), 10% (3), 0% (4).

**Conclusion**
This study is from a single centre and has survival rates comparative with those reported in the literature. Relatively few patients with stage 1 disease underwent lymphadenectomy or adjuvant treatment.

P-25

## A CASE SERIES OF CERVICAL STENOSIS MANAGEMENT IN WOMEN WHO UNDERWENT FERTILITY SPARING TRACHELECTOMY FOR EARLY STAGE CERVICAL CANCER

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**Aims**
To evaluate insertion of Word catheter as a treatment of post-operative cervical stenosis in women who undergo radical trachelectomy for early cervical cancer.

**Methods**
Case note review of nulliparous women who underwent surgical treatment of cervical stenosis/ammenorrhea with insertion of Word catheter (normally used for drainage of Bartholin's abscess) following previous radical trachelectomy as a fertility sparing procedure for cervical cancer.

**Results**
Three nulliparous women (aged 23-32 years) were included. All women had early stage squamous cell cervical carcinoma (stages 1a2 to 1b1). They underwent radical trachelectomy with bilateral pelvic lymph node dissection as a fertility sparing treatment of their cancer (1 laparoscopic, 1 abdominal, 1 vaginal). Postoperative recovery was uncomplicated. They presented with symptoms of amenorrhea and cyclical pelvic pain secondary to cervical stenosis within 6 months of initial surgery. It was not possible to assess the Os colposcopically to exclude recurrence. Uncomplicated cervical dilatation and insertion of Word catheter under laparoscopic guidance was undertaken. It was possible to assess the Os colposcopically and ensure no recurrent cancer. Over a period of 2 months follow up, only 1 woman has resumed regular menstrual cycle.

**Conclusion**
Delayed insertion of Word catheter under laparoscopic guidance is a viable option for management of symptomatic cervical stenosis rather than using Foley's catheters at trachelectomy. We are currently considering whether we should undertake word catheter insertion at the time of initial trachelectomy to prevent stenosis/symptoms related to it. However longer follow up is required to establish the long term benefits of this procedure.

P-26

## SERVICE EVALUATION OF INITIAL EXPERIENCE IN TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMIES IN TERTIARY CANCER CENTRE IN SOUTH EAST WALES

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**Aims**
To compare whether the introduction of total laparoscopic radical hysterectomy (TLRH) for early cervical cancer is a viable alternative in comparison to previous use of open radical hysterectomy (RH).
To review the rate and severity of complications in women undergoing TLRH in comparison to those undergoing open RH.

**Methods**
Review of hospital operative database, electronic patient records, and departmental log of post-operative complications, and compare our figures with NICE guidelines.

**Results**
Between 2008-2015 we performed 180 open RH and 61 TLRH. TLRH was performed for cervical cancer stage ≤IB1 in 82% of cases, and stage II-III endometrial cancer in 18%. The median age at cervical cancer diagnosis was 45 years (range 23-84) and 61 years (range 42-84) for endometrial cancer. 11% of patients undergoing TLRH were morbidly obese and 18% had class I-II obesity. In TLRH average blood loss was 214mls (range 10-1000mls), while in open RH the average blood loss was 585mls (range 50-4800mls). Complication rate for laparoscopic procedures was 15 % and 19% for open RH . Using Clavien-Dindo Classification there was 6.5% Grade 3 (bladder injury repaired at the time of surgery), 6.5 % grade 2 and 2% grade 1. The rates in open RH were 3% Grade 3 (including bowel and ureteric injuries), 13% Grade 2, 3% Grade 1.

**Conclusion**
Within this evaluation, when compared to open radical surgery for cervical cancer, the laparoscopic approach has demonstrated an improvement in patient outcomes especially in a reduction in significant intraoperative complications. However longer follow up is required to review recurrence and survival.

P-27

## SURGICAL MANAGEMENT OF ENDOMETRIAL CANCER IN A REGIONAL GYNAECOLOGICAL CANCER NETWORK IN THE UNITED KINGDOM - A PROSPECTIVE, MULTI-CENTRE AUDIT OF EFFICACY, SAFETY AND SURGICAL PRACTICE

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Conventionally, endometrial cancer surgery has been open abdominal hysterectomy (AH). However, laparoscopic hysterectomy (LH) is becoming more common.

12-month prospective audit data collected by the Northern England Strategic Clinical Network Gynaecological Cancer Site Specific Group (10 Cancer Units, 2 Centres) compared procedure-rates, short-term efficacy and safety of LH and AH for endometrial cancer.

Data (303 patients; median age 65.0 years; median BMI 32.0kg/m$^2$) showed 64.7% had LH; entry-technique was surgeon-dependent. The main factor for surgical choice was surgeon-experience, with subspecialist oncologists or recognized laparoscopic-trainers more likely to successfully complete LH ($p < 0.001$).

Contrary to published efficacy data there was no difference in operating times between AH and LH; length of hospital-stay for LH was shorter as expected, with a number of day-case procedures.

Intra- and post-operative complications were low and less likely during successful LH; intra-operative haemorrhage was more likely with AH. Of 18 conversions from laparoscopic surgery, most were for strategic reasons, such as uterine size.

There was no evidence to support a particular vessel-sealing energy-source over another; use was operator-dependent. Advanced energy-sources did not have an advantage in operating time compared to simple bipolar devices. Subspecialists preferred ultrasonic-devices. Similarly there was no evidence that a particular method of LH was less safe than another.

LH-techniques were concluded to be safe and the most important factor for successful LH was specialism in surgery - either as a subspecialist oncologist or a recognized laparoscopic-trainer. This has important implications for future planning and training to maintain endometrial cancer services.

## P-28

### SYMPTOM LED FOLLOW UP FOR EARLY STAGE ENDOMETRIAL CANCER

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**Background and aims**:
Recent studies have shown limited value in routine clinical follow up for detection of endometrial cancer recurrence. We introduced symptom led follow up (SLFU) for stage 1 a grade 1 endometrial cancers in our practice with the intent of detecting recurrence. The aim of our project was to evaluate the reliability of SLFU and patient's self-reporting of symptoms.

**Methods:**
A case note review of women who were registered for SLFU at University Hospital of Wales, Cardiff, was undertaken between March 2014 and November 2015. A self-referral system was introduced for patients with a Stage 1a, grade 1 endometrial cancer. Women were interviewed by their Gynae-oncology Clinical Nurse Specialist (CNS) to assess their suitability and to consent them for SLFU. Women were given information packs, symptoms checklist and contact numbers of CNS to get in touch if they had any symptoms.

**Results:**
49 women were commenced on SLFU. 1 woman reported to CNS with vaginal bleeding. Three women self-reported to their general practitioner with haematuria and two with a doubt of recurrence which was ruled out with imaging. None of the patients had a recurrence during the evaluation period. No patients were lost to follow up.

**Conclusions:**
The service evaluation appeared to support the reliability of SLFU but women appeared to be more likely to report their symptoms to general practitioner. However, this was a small sample to make any definite conclusions. We intend to re-evaluate SLFU annually to continue to ensure its usefulness and reliability

P-29

## ADVANCED LAPAROSCOPIC SURGERY BEYOND THE CANCER CENTRE -VIDEO AND REFLECTIVE LOG

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**Background**
Women with low risk endometrial cancer or adnexal mass may not need surgery by gynaecological oncologists, yet can present significant surgical challenges. Advantage of laparoscopic approach is well documented but not universally offered and there is limited outcome data on women having complex laparoscopic surgery out-with a cancer centre.

**Aim**
To audit outcomes of advanced laparoscopic surgery in our cancer unit.

**Methods**
We have audited surgery consecutively performed by our team of 2 special interest surgeons over an 18 month period (n=52). Patient demographics were studied in addition to notes from surgeons' reflective log and video diaries.

**Results**
Age range was 51 - 85(mean 68) years.BMI range was 19.2 - 58.5(mean 38.85), including 35 women (68%) with BMI > 30, and 13 women (25%) with BMI > 40. 1/52 was converted to an open hysterectomy (2 %). Average hospital stay was 2 days. 1/52 women (2%) was readmitted post-operatively with gastritis. There were no readmissions due to sepsis, wound complications or thrombo-embolism and any cases of visceral damage.

Our reflective log has allowed us to tackle increasingly challenging cases laparoscopically with main learning points being that excellent outcomes can be achieved with a dedicated time, theatre team and bariatric theatre equipment. Use of laparoscopic TAP (trans-abdominal plane) block minimise need for post-operative opiates and allows early mobilisation and discharge home. Our reflective diary and video diary have allowed us to reflect on pitfalls and implement incremental improvement. These will be presented at the meeting

P-30

## OBESITY AND GYNAECOLOGICAL CANCER — AN UMBRELLA REVIEW OF META-ANALYSES OF OBSERVATIONAL STUDIES

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**Background:**
Obesity has been associated with increased incidence of endometrial, ovarian and cervical cancer. To estimate the strength of current evidence and existence of potential biases in the literature, we performed an umbrella review of meta-analyses between different obesity indices and gynaecological cancer incidence and mortality.

**Methods:**
We searched PubMed, Embase, and the Cochrane database for published meta-analyses or systematic reviews. For each included review, we calculated the fixed and random effect summary estimates with respective p-values, confidence intervals, 95% prediction intervals, and credibility ceilings and assessed presence of inter-study heterogeneity, small study effects, or excess significance in each meta-analysis.

**Results:**
Altogether 47 meta-analyses regarding incidence or mortality from cervical, endometrial or ovarian cancer met the inclusion criteria and 15 presented at least weak evidence ($p<0.05$ in random effects model).

Only the association between waist-to-hip ratio and endometrial cancer was considered convincing ($p<1E-6$, > 1000 cancer cases, no evidence of bias). Associations between endometrial cancer and BMI, weight, weight gain, and waist circumference were highly suggestive ($p<1E-6$, > 1000 cases, evidence of at least some bias). Between different obesity indices and ovarian cancer the association was considered only suggestive ($p<1E-3$, > 1000 cases, evidence of bias). Between obesity and cervical cancer the association was considered weak.

**Conclusions:**
There is a significant body of evidence supporting the association between different obesity indices and endometrial cancer incidence. Between obesity and ovarian the evidence was less robust and between obesity and cervical cancer only weak evidence exists.

P-31

## RESIDUAL DISEASE THRESHOLD AFTER PRIMARY SURGICAL TREATMENT FOR ADVANCED EPITHELIAL OVARIAN CANCER (EOC); THE SURVIVAL BENEFIT OF COMPLETE CYTOREDUCTION

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**Introduction:**
Type of surgery and how aggressive the approach adopted is often difficult to decide, with the choice dependent on a number of factors. Many surgeons hypothesise that aggressive surgery and removal of all or as much tumour as possible will prolong survival.

**Methods:**
Bibilographic databases were searched until January 2015 for data on residual disease (RD) from studies which included multivariate analyses including >100 adult women with advanced EOC who underwent primary cytoreductive surgery. Bayesian random-effects network meta-analysis for overall-survival (OS) was carried out using MCMC methods in WINBUGS with 50,000 simulations to estimate direct and indirect comparisons of RD thresholds.

**Results:**
Sixteen studies (n=3,655 women) were included (all at overall high risk of bias). Analyses showed the prognostic importance of complete cytoreduction (0cm). Hazard ratios (HR) for OS were 2.4 (95% credible interval (CI) 1.9-3.0) for <1cm RD threshold vs. 0cm (mortality risk 2.4 times greater for RD<1cm vs. complete cytoreduction), 3.0 (1.5-5.7) for >0cm vs. 0cm, 3.9 (2.2-7.1) for <2cm vs. 0cm, 4.7 (2.8-8.0) for 1-2cm vs. 0cm, 3.4 (2.7-4.5) for >1cm vs. 0cm, 6.5 (4.0-10.8) for >2cm vs. 0cm, 2.0 (1.1-3.6) for 1-5cm vs. 0cm, and 2.9 (1.6-5.6) for >5cm vs. 0cm. Leaving just microscopic disease had the longest survival (Probability being best=98.3%). Quality of evidence was moderate.

**Conclusion**:
Survival increases with complete cytoreduction, clinically the trade-off with quality of life and adverse events needs considering. Further modelling is underway to predict survival based on RD thresholds after primary surgery to offer accurate assessment of prognosis.

P-32

## 10 YEAR REVIEW OF MALIGNANT OVARIAN GERM CELL TUMOURS AT BARTS HEALTH NHS TRUST

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**Methods:**
Retrospective case-notes review of malignant ovarian germ cell tumours at BartsHealth 01/01/2005-31/01/2015.

**Patients:**
29: yolk-sac:13(45%), immature teratoma:8(28%), dysgerminoma:7(24%), choriocarcinoma: 1. FIGO I: 17(59%), II: 1 patient, III: 7(24%), IV: 4(14%). Average age 27(11-69yrs).

**Primary** Treatment:
27/29 had primary, fertility-sparing surgery. The other two were Stage IV. One (yolk-sac tumour) received chemotherapy (babyBOP x2 and BEP x1) and is disease-free at 19 months. The other (choriocarcinoma) received chemotherapy (baby BOP x1 followed by BEP x4) and died of progressive disease (PD) five months later.

Of 27 surgical patients, four had residual disease >2cm (all IIIc) of whom three were salvaged with chemotherapy. Two remain disease-free at 3 and 90 months. The third relapsed and died at 47 months following multiple lines of chemotherapy. The fourth patient died at 8 months (PD).

19/27 patients received adjuvant BEP. The remaining eight had Ia/b immature teratoma.

**Outcome:**
Two patients died of PD. Four relapsed after surgery and adjuvant BEP: all four had yolk-sac histology. 2/4 were salvaged with chemotherapy and two died of disease (46 and 47 months). Three patients managed expectantly for Ia/b immature teratoma recurred; all were salvaged with chemotherapy and are disease-free at 73, 83 and 150 months. Three patients with growing teratoma syndrome are disease-free 9, 39 and 50 months after radical surgery.

**Toxicity:**
28 Gd3/4 toxicities, including bleomycin lung (seven patients) and Gd3/4 neutropenic sepsis (seven patients). Four delivered a healthy baby.

**Conclusions:**
Fertility-sparing surgery and post-op surveillance for Ia/b immature teratoma were safe in this retrospective series.

P-33

## OUTCOMES OF RETROPERITONEAL PARA-AORTIC LYMPHADENECTOMY IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER

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**Aim:**
To evaluate outcomes of laparoscopic retroperitoneal para-aortic lymphadenectomy for stage 1b2-3b cervical cancer

**Methods:**
The gynae-oncology and pathology databases were searched for all para-aortic lymphadenectomy cases undertaken at University College Hospital between May-2005 and Jan-2016. Descriptive statistics were used to analyse baseline characteristics and Kaplan Meier curves for survival(SPSS-21).

**Results:**
Retroperitoneal para-aortic lymphadenectomy was scheduled for 125 of 263 stage 1b2-3b cervical cancer patients. 11 declined, 2 cancelled, and 5 went elsewhere. The procedure was abandoned at outset in 12/125(9.6%, CI:5.0-16.2) patients: (10- inability to develop/maintain retroperitoneal pneumoperitoneum;2-large adherent nodes). 113 underwent para-aortic lymphadenectomy. The mean age=45.1(SD12.2) years; 95% were ASA=2 & 5% ASA=3; 47%=grade-2 & 50%=grade-3. By stage: stage1b2=4(3.5%), stage2a=2(1.8%), stage2b=84(74.3%), & stage3b=23(20.4%). Histologically: squamous cell carcinoma=78(69%), adenocarcinoma=34(30%), undifferentiated carcinoma=1(1%). The intra-operative and post-operative complication rates were 8.8%(CI:4.3%,15.7%) and 5.3%(CI:1.9%,11.2%) respectively. These included vascular injuries=3, lymphocysts=6, bowel-&-ureteric injury=1.
Para-aortic nodes were positive on CT/MRI in 5/113 cases. Cancer was found in 10(8.9%,CI:4.3%,15.7%) cases on histological assessment, all received extended field radiotherapy. Only 2 of these were identified on pre-operative CT/MRI imaging. The mean lymph node count=11.7(SD7.6). 3 patients had negative PAN histology and received extended field radiotherapy (1poor prognostic features, 1MDT decision, 1 low nodal count but positive on imaging-early learning curve). Para-aortic lymphadenectomy led to alteration in radiotherapy management in 9(8%,CI:3.7%,14.6%) patients. The mean overall and progression-free survival of the cohort= 103.7(CI:95.6,111.6) months and 48.3(CI:41.9,54.6) months respectively.

**Conclusions:**
Laparoscopic retroperitoneal para-aortic lymphadenectomy is an acceptable procedure which can guide treatment in women with locally advanced cervical cancer.

P-34

## DOES UTERINE MANIPULATOR INCREASE LYMPHOVASCULAR SPACE INVASION (LVSI) IN ENDOMETRIAL CANCER PATIENTS?

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**Background:**
LVSI is considered an important prognostic indicator for adjuvant treatment in endometrial cancer. Uterine manipulators may force tumour into the uterine microvasculature and may increase the reported frequency of LVSI which may occur to a varying degree depending on the manipulator used.

**Aim:**
To determine if correlation between LVSI and different uterine manipulators (Clearview, VCare &Spackman) exists

**Method:**
Retrospective database analysis of 104 patients who underwent Total Laparoscopic Hysterectomy (TLH) between Jan 2013-Dec 2014 for endometrial cancer in Cheltenham General Hospital Multivariate logistic regression done using STATA.

**Results:**
78 patients underwent TLH BSO and 26 had TLH BSO &BPLND (Bilateral pelvic Lymphnode dissection). 82 (79%) patients had stage 1 cancer, 13(13%) stage 2; 8 (8%)stage 3; 1 (1%)stage 4. 28(27%) women were managed with Spackman, 28(27%)with Clearview; 48(46%) with VCare. 36% of women managed with Spackman had LVSI vs. 43% and 35% managed with Clear view and VCare respectively. 8/21 (38%) women with stage 1 cancer had LVSI in the Spackman group vs. 8/20(40%) in the Clearview and 13/41(32%) in the VCare group. Those with low grade (1&2) cancers 5/18 (38%) women in the Spackman vs. 5/13 (28%) in the Clearview and 8/31(26%) in the VCare group had LVSI. Logistic regression analysis show that when compared to Spackman there is no statistically increased LVSI for Clear view(p=0.77; CI 0.37-3.7; OR 1.19) and VCare(p=0.71; CI 0.29-2.3; OR 0.82)

**Conclusion:**
There is no increased risk of LVSI for Clear view and VCare uterine manipulator compared to Spackman. Need a bigger sample size for subgroup analysis.

P-35

## INCIDENCE OF PARA-AORTIC NODAL INVOLVEMENT IN PATIENTS WITH HIGH GRADE ENDOMETRIAL CANCER

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**Background**
High grade endometrial cancers are associated with an increased incidence of para-aortic node (PAN) involvement when compared to other grades of endometrial cancer. Our current recommendations for surgical staging include para-aortic node dissection (PAND).

**Methods**
This was a review of all patients who underwent a PAND for high grade endometrial cancer from January 2013 to July 2015. Data was collected from patient files and analysed using SPSS.

**Results**
The mean age and BMI in this group of 45 women were 63 years (31-78) and 30kg/$m^2$ (20 - 44) respectively. Preoperative MRI correctly identified all patients with involved PAN. Serous, Grade 3 endometroid and carcinosarcomas accounted for 37.5%, 34.3% and 18.8% respectively while clear cell and undifferentiated endometrial cancers accounted for the remaining 9.4%. The mean nodal count was 8 (2-20). Three (6.6%) women were found to have PAN involvement. The incidence of extra uterine spread was 22%. Incidence of postoperative complications was lower in laparoscopic PAND (14% vs 33%). The mean operating times for laparoscopic and open procedures inclusive of PAND were 3.2 and 3.3 hours respectively. The mean hospital stay was significantly shorter for laparoscopic vs. open PAND (4 vs. 7 days, p=0.028).

**Conclusion**
Surgical staging is important in directing adjuvant treatment for high grade endometrial cancers. The incidence of positive para-aortic lymph nodes in this group reveals the importance of PAND as part of surgical staging in high grade endometrial cancer. The laparoscopic approach to performing PAND is associated with less morbidity when compared to open procedures.

P-36

## MORBIDITY ASSOCIATED WITH PARA-AORTIC LYMPHADENECTOMY

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**Background**
Para-aortic node dissection (PAND) is often performed as part of the surgical staging in gynaecological cancer. Indication for performing this procedure depends on the location of the primary malignancy, stage of the disease and the histological subtype.

**Methods**
All women who had PAND as part of their treatment for cervical, ovarian/fallopian tube and endometrial cancer were included in this review. Clinical data was collected from patient files during the period January 2013 to July 2015.

**Results**
Eighty two women with a mean age and BMI of 54years and 27.6kg/$m^2$ were included in this review. Forty five women had endometrial cancer while cervical and ovarian accounted for 21 and 16 women respectively. Laparoscopic PAND was performed in 55 women, 23 of whom had a extra-peritoneal approach (LEPAND). Intra-operative bleeding (blood loss >1000mls) occurred in 12 women (10 in the open group vs 2 in the Laparoscopic group). Post-operative complications (inclusive of surgical site infection, fever, wound dehiscence, vault hematoma and respiratory infection) occurred in 15 women (10 in the open group vs. 5 in the Laparoscopic group). Four women required ICU/HDU admission, 3 in the open group vs. 1 in laparoscopic group. There was a statistically significant difference in hospital stay for laparoscopic vs. open cases of 3 and 7 ($p<0.001$) respectively.

**Conclusion**
There was an overall complication rate of 23.2 %(19) in this group. Laparoscopic PAND was performed in 55 women (67.1%) with a lower associated complication rate (9%) and hospital stay when compared to open procedures.

P-37

## MALIGNANT MELANOMA OF THE VULVA AND VAGINA - A SINGLE INSTITUTION CASE SERIES OF 87 PATIENTS

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**Background:**
Vulva and Vaginal malignant melanoma (VVMM) is a rare cancer with a poor prognosis and few cases series reported. The Royal Marsden is a national referral centre for malignant melanoma.

**Objective:**
To report the largest global cases series of VVMM and identify any trends in survival and risk factors for recurrence.

**Methods:**
Clinico-pathological and demographic data was collected from all cases of VVMM with available data diagnosed between 1987 and 2016. This included: Breslow depth, metastasis, recurrence and survival. These data were analysed for trends and changes in management and prognosis in the past 30 years.

**Results:**
87 patients were identified. Median age of diagnosis was 60 years and median Breslow thickness 5.00mm. 86 (98.6%) patients had initial surgical management, 11% of these women had adjuvant chemotherapy, radiotherapy or both. The median time between diagnosis and first recurrence was 9 months. Overall 1 and 5 year survival was 84% and 26%. The median survival of patients diagnosed before 2005 was 26 months, and from 2005 onwards 31 months($p=0.31$). Median survival of patients with localized disease at presentation was 30 months compared to 18 months in those with metastatic disease($p<0.05$). Median survival was 20 months in those with regional metastatic disease compared to 9 months in those with distant metastatic disease at diagnosis($p<0.05$).

**Conclusions**:
VVMM is a poor prognosis diseases with no significant improvement in prognosis in the past 30 years in our series. Regional or distant metastatic disease at presentation was a marker of poor prognosis.

P-38

## SECONDARY CYTOREDUCTION SURGERY IN RECURRENT OVARIAN CANCER: PILOT STUDY TO EVALUATE RADIOLOGICAL CRITERIA FOR CASE SELECTION

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**Aim/ Background**:
The present pilot study is aiming to validate 12 radiological and 3 clinical criteria (age, ASA score and preoperative Ca-125) as predictors of complete secondary cytoreductive surgery outcome.

**Patients and methods:**
This is a retrospective triennial review (January 2013 to December 2015) in a single institution, the Royal Marsden Hospital, of all recurrent cases of ovarian, fallopian tube and peritoneal cancer who have undergone secondary cytoreductive surgery (SCS) with the goal of complete cytoreduction. Preoperative crossectional imaging (CT, MRI, or PET scans) were available for all patients. Two consultants radiologists are currently reviewing the images and aim to score12 radiological criteria, (lesions >1cm on porta hepatis, subcapsular liver, intraparenchymal liver, gallbladder fossa , lesser sac, omentum , root of superior mesenteric artery, small bowel mesentery, splenic / perisplenic, retroperitoneal lymph nodes above the renal hilum, anterior abdominal wall invasion and diffuse small bowel thickening). The radiologists will be blind regarding surgical outcome. Both radiologists have the responsibility for the multidisciplinary meetings.

**Results:**
70 patients underwent surgery and complete cytoreduction was achieved in 45 patients (64%). Currently we are in the process of completing the radiological scoring and results will be updated and presented.

**Discussion:**
The analysis will examine the predictive value of 12 radiological criteria and 3 clinical, for complete cytoreduction for patients in whom secondary cytoreductive surgery is considered.

P-39

## INCIDENCE OF VTE IN OVARIAN CANCER PATIENTS UNDERGOING NEOADJUVANT CHEMOTHERAPY

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The UK annual mortality from Venous Thromboembolism (VTE) is 25,000. Previous studies report a 6.4-10.6% VTE incidence in Ovarian Cancer patients undergoing first line Chemotherapy. Current NICE guidance advises up to 30 days

Post-operative low molecular weight heparin (LMWH) for VTE prophylaxis, with no existing guidance for Neo-adjuvant chemotherapy (NACT) patients.

Our aim was to determine the VTE incidence in patients undergoing NACT for Ovarian cancer at UCH between January 1st 2000 and December 31st 2010, and ascertain whether subgroups would benefit from prophylactic LMWH during NACT.

A Retrospective review of electronic notes identified eligible patients from the Ovarian Cancer database at UCH. Data collection included age, co-morbidities, histology, FIGO staging, and the incidence, timing and type of VTE. Physical notes were reviewed to extract smoking and BMI data, known independent risk factors for VTE.

Our cohort identified 188 patients, 38 (20%) had VTE prior to IDS, with 22 diagnosed during NACT, 12% of the total cohort. 24 (63%) suffered a PE, and 17 (45%) had pre-existing comorbidity. One mortality resulted from multiple PEs, and 4 patients had surgery rescheduled. 11 patients required an IVC filter. The median age was 68 (mean 71,IQR 16).

The VTE Incidence of 20% represents significant morbidity, higher than previous studies reported. Research suggests subclinical VTE presenting pre-operatively is responsible for a high number of post-operative VTE diagnoses. For certain sub-groups, prophylactic LMWH is potentially safer and more cost effective than IVC filters. Further analysis of smoking and BMI as independent risk factors is ongoing.

P-40

## PRIMARY CHEMOTHERAPY FOR WOMEN WITH EPITHELIAL OVARIAN CANCER IN A REGIONAL CENTRE

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**Introduction**
Conventional management for ovarian cancer consists of optimal surgical cytoreduction followed by adjuvant chemotherapy. However such surgery carries a risk of potentially serious surgical morbidity. An alternative strategy of primary chemotherapy followed by surgery has been proposed for a subgroup of women. The aim of this retrospective observational study was to examine the characteristics of, and outcomes for, women receiving primary chemotherapy for epithelial ovarian cancer in our regional cancer centre.

**Methods**
Patient details were obtained from a prospectively maintained database for the years 2007-2011. Charts were retrieved from medical records. The clinical casenotes and computerised data were reviewed.

**Results**
Of the 15 women identified, mean age at diagnosis was 68 (range 44-88) years, and 93% (n=14) were FIGO stage III or higher at the time of diagnosis. There were six women who either experienced rapid progression of disease or had significant co-morbidities which precluded surgery. Of the nine women who underwent surgery, all had residual disease <1 cm at conclusion. The five year survival for the 15 women was 27% (n=4). When the women who did not undergo surgery were excluded, five year survival was 44% and this is comparable to the overall five year survival of 59% for all women with epithelial ovarian cancer in our centre.

**Conclusion**
There is a cohort of women who may benefit from primary chemotherapy followed by cytoreduction. Further studies should aim to identify the subgroup most likely to benefit from the approach.

P-41

## A GIANT MUCINOUS BORDERLINE NEOPLASM OF THE MESENTERY MISDIAGNOSED AS AN ADNEXAL CYST - A CASE REPORT AND LITERATURE REVIEW

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Mucinous cystic neoplasms (MCN) of the mesentery are rare tumours which are difficult to diagnose accurately preoperatively and carry the risk of being borderline or malignant. This is a case of a 37 years old female who was referred to a tertiary gynaecological oncology centre for a suspected ovarian tumour and was found to have a borderline MCN, originating from the descending and sigmoid colon mesentery. To the best of our knowledge, this is the largest borderline MCN of mesenteric origin reported in the literature so far and only the second case managed by a gynaecologist. We are also presenting a literature review of the similar cases reported up-to-date.

P-42

## UTERINE DILATION AND CURETTAGE AND RISK REDUCING SALPINGOOPHERECTOMY, IS IT NECESSARY?

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**Background**
It has been the practice in the Royal Marsden Hospital to routinely perform uterine dilatation and curettage (D&C) when performing laparoscopic risk reducing bilateral salpingooopherectomy (RRSO). All these patients have pre-operative pelvic ultrasound performed. The rationale for this is to detect occult disease in the uterus and the possible increased risk of serous uterine cancer associated with BRCA mutations.

**Objective**
To assess the uterine pathology in a series of patients receiving RRSO and D&C.

**Method**
100 consecutive patients identified where RRSO was performed. Completion of D&C, histopathological result from biopsies and complications were recorded. If there was an abnormal histological result preoperative ultrasound scan report and reported symptoms were reviewed.

**Results**
The 100 cases were identified between October 2013 and January 2016. 39 RRSOs were for BRCA1 gene mutation, 51 for BRCA2, 9 for personal or family history of breast Cancer and 1 had both BRCA1 and 2. 10 did not have a sample from the D&C. Of the D&C samples 31 (35%) were insufficient for diagnosis and the remainder (58 (65%)) showed no atypia or malignancy. In one case a pipelle biopsy was done with the histology showing no malignancy or atypia.

**Conclusion**
Women undergoing RRSO for BRCA gene mutation do not appear to benefit from assessment of endometrial tissue via D&C and therefore the procedure should probably only be undertaken if the patient has symptoms or a scan suggestive of endometrial pathology.

P-43

## LATERALLY EXTENDED ENDOPELVIC RESECTION (LEER) PROCEDURES IN RECURRENT GYNAECOLOGICAL CANCER: REVIEW OF ONCOLOGICAL AND MORBIDITY OUTCOMES IN GATESHEAD

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**Background**
LEER procedures are considered in recurrences involving the pelvic sidewall, to achieve R0 resection in gynaecological malignancy. This can be associated with significant perioperative morbidity and mortality.

**Methods**
Oncological outcomes were obtained from MDT database since September 2013. Morbidity data was prospectively collected.

**Results**
Fourteen patients were referred to NGOC,Gateshead, for consideration of LEER, 5 were national referrals. Three patients declined LEER. Eleven patients underwent laparotomy and 4 were closed(frozen section node-positivity).

Seven patients underwent LEER(4 cervical, 1 endometrial and 2 vaginal cancers), performed by gynaecological oncologists in previously-irradiated pelvic fields.

Median follow-up was 24(12-30)months.

R0 resection was achieved in 6patients. The first patient had a positive surgical margin(R1), perineural invasion and LVSI. She declined adjuvant brachytherapy and developed small bowel obstruction secondary to further recurrence at 14months.

Three further recurrences occurred: a patient with positive(intracapsular) pelvic nodes received adjuvant chemotherapy but developed vulval recurrence at 21months; another developed sciatic notch recurrence at 18months; and another pelvic recurrence at 10months,was managed palliatively and died 12months post-LEER. The remaining 6/7 patients are still alive.

Median estimated blood loss was 3000ml(2500-5700ml).

Four patients developed urinary infection; one ileus; and another leg pain/limp.

Two major morbidities occurred after 30days: one patient developed bowel obstruction at 8weeks requiring re-laparotomy and repeated pelvic collections; another developed stoma-site bleeding managed conservatively.

Median length inpatient stay was 20(16-25) days.

**Discussion**
We demonstrate good histolo-surgical outcomes(6/7), good overall survival(6/7), and good recurrence-free survival(3/7) with favourable morbidity in patients who would have otherwise been managed palliatively.

P-44

## "TICK TOC" - TIME FOR TEST OF CURE IN STAGE 1A1 CERVICAL CANCER?

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**INTRODUCTION:**
Whilst the management of Stage 1a1 cervical cancer is consistent, there is variation in the recommendations for the duration, location and method of follow-up. The introduction of Test of Cure (ToC) has the potential to substantially alter the cytology follow-up of women treated with a LLETZ (Large Loop Excision of the Transformation Zone). This study was undertaken to ascertain the current management of stage 1a1 cervical cancers in Glasgow and to assess the potential effect of ToC.

**METHODOLOGY:**
A retrospective analysis of all Stage 1a1 cancers diagnosed and managed in Glasgow between June 2009 and December 2011 was undertaken. Data was collected on previous cytology results, methods of treatment, follow-up duration and location, and number of post-treatment cytology and colposcopies undertaken.

**RESULTS:**
76 cervical cancers were identified, 71 via abnormal cytology. 45 women had a LLETZ as their definitive treatment and the remainder a hysterectomy. In the hysterectomy group 93% of vault smears were negative. In the LLETZ group 219 of 256 (86%) cytology results were negative. 96% of those with a negative first smear had only negative or low-grade cytology thereafter. Of 220 follow-up appointments attended, 24 (9.1%) generated further procedures with only 3 high-grade pathology results. 1 recurrence was detected by other means.

**CONCLUSION:**
Women who have had a simple hysterectomy may not benefit from a vault smear. In women treated with a LLETZ, the introduction of ToC should reduce the volume of cytology follow-up and thus the workload in colposcopy.

## P-45

### ENHANCED RECOVERY IN GYNAECOLOGICAL ONCOLOGY SURGERY: ARE WE MEETING THE STANDARDS?

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**Introduction:**
The benefits of enhanced recovery (ER) has been strongly demonstrated for colorectal surgery and there is emerging evidence of its benefit in gynaecological surgery. Gynaecology was one of the four surgical specialities selected for the Enhanced Recovery Partnership Programme between 2009 to 2011. Several clinical trials have proven the traditional approach to perioperative care can be harmful to patients and therefore adapting the ER pathway for gynae-oncological surgery is recommended.

**Method:**
Data has been collected prospectively over a four week period. All patients undergoing major surgery (open and laparoscopic) for gynaecological cancer are eligible for inclusion. Patients undergoing minor procedures were excluded. Standards were defined from the RCOG and ASGBI guidelines. An electronic proforma was created and data entry commenced when the patient was admitted pre operatively.

**Results:**
Results in progress.

**Discussion:**
There are currently no RCTs conducted on the effect of ER in gynae-oncological surgery. There are non-RCT studies which have proven the beneficial effect of implementation of the ER pathway but definitive conclusions cannot be reached. Our data will prove a useful evaluation for future studies.

P-46

## RETROSPECTIVE STUDY OF MANAGEMENT OF ENDOMETRIAL CANCER OVER A TWELVE YEAR PERIOD IN A CANCER CENTRE

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**Introduction**
Endometrial cancer is the fourth most common cancer in the UK in 2011.

Most women are in the post menopausal age group. Patients with post-menopausal bleeding have a 10-15 percent chance of having endometrial carcinoma.

Uterine cancer is generally diagnosed early, around 75 percent diagnosed in stage1 and the majority are treated successfully with surgery.

**Aims**
To check compliance with the regional guidelines in the management of endometrial cancer.

**Materials and methods**
Data was collected from hospital notes using a proforma between study period 2003-2015.

**Results**
The total number of patients treated with endometrial cancer were 428. The number of case notes audited were 60.

The average age at presentation was 63.2 years.

The most common presentation in this study group was post-menopausal bleeding.

The diagnostic pathway followed included performing transvaginal ultrasound scan, pipelle biopsy and/or hysteroscopy and endometrial biopsy.

The mainstay of treatment was surgery. 88 percent women had total abdominal hysterectomy and bilateral salpingo-oophorectomy. 12 percent women had laparoscopic assisted vaginal hysterectomy and bilateral salpingo-oophorectomy.

The number of patients diagnosed in various stages of the disease were - stage 1A endometrioid -21.6%, 1B - 20%,1C - 21.6%, 2A - 8%, 2B - 5%, stage 3 - 3%, mixed mullein tumour - 1.6%, stage 4 - 1.6%, fibroid - 1.6%, early stromal carcinoma -1.6%, endometrioid and papillary serous - 1.6%.

21% patients needed post-operative external beam radiotherapy, 16.6% needed vault brachytherapy, 3.3 % needed chemotherapy and radiotherapy, 5.1% were given chemotherapy.

**Conclusions**
The guidelines for management were followed.

P-47

## RISK OF MALIGNANCY INDEX IN THE DIAGNOSIS OF OVARIAN CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Objective:**
To critically evaluate the accuracy of the risk of malignancy index (RMI) for the diagnosis of ovarian cancer in pre- and post-menopausal women.

**Methods:**
Employing a sensitive search strategy, electronic databases, including Medline, Embase and Cochrane, were searched from 1991 to December 2014 for studies assessing the diagnostic test performance of RMI in non-pregnant women ≥18 years suspected of ovarian cancer. Studies with insufficient 2x2 data were excluded. The reference standard for evaluation of accuracy was either histology or clinical follow-up in women who have not undergone surgery. Standard systematic review methods were used to minimise bias.

Test sensitivities and specificities for different indexes (RMI 1-4) and common thresholds will be pooled using bivariate meta-analysis for all women, as well as pre- and post-menopausal women. Forest plots will be employed to illustrate the sensitivity or specificity of individual studies, as well as the pooled average across studies, while SROC plots will be produced to illustrate the accuracy of the RMI across thresholds.

**Results:**
A total of 55 studies were selected for full text screening. Study characteristics were extracted and quality assessment was undertaken using the Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) tool. Data was extracted to derive a 2x2 table for each study.

Statistical analysis is currently underway, and a summary of the main results, along with an account of the strengths and limitations of the evidence, will be presented.

**Conclusion:**
This test accuracy review should provide information on most useful RMI variant and threshold for ovarian cancer.

P-49

## IMPACT OF INTRA-UTERINE MANIPULATION ON OPERATIVE AND PATHOLOGICAL OUTCOMES FOLLOWING ROBOTIC HYSTERECTOMY FOR ENDOMETRIAL CANCER

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**Background**
Minimally invasive surgery has transformed the experience of patients with endometrial cancer. Indeed, robot assisted laparoscopic surgery can offer multiple benefits to the service provider and the patient alike. Robotic hysterectomy is at present accomplished with the help of surgical assistants. The assistance may include the use of vaginal or intrauterine manipulator to navigate pelvic dissection, colpotomy and vault closure. The intrauterine manipulator is placed prior to laparoscopy. The use of intrauterine manipulator is thought to be associated with peritoneal spread of malignant tissue via the fallopian tubes. The evidence from the literature is conflicting and at present there is no guidance. In this study we explore the impact of manipulation.

**Method**
We examined the effect of intra-uterine manipulation on surgical and pathological outcomes following robotic hysterectomy. One method involved *UPS* intrauterine manipulation. This was compared with blue dye fornix tattooing for surgical guidance. The study covers six-year period. The study parameters included age, BMI, uterine weight, grade of surgeon, stage, previous uterine surgery and tubal sterilisation. The outcomes of interest were console time, operation time, EBL, uterine perforation time, mini-laparotomy rates, ureteric injuries, peritoneal cytology status, post-operative complications, length of stay and recurrence.

**Results**
The age and BMI were similar. Peritoneal cytology, LVSI, stage, grade, uterine weight, EBL were comparable. The duration of vaginal phase ($P<0.039$), console phase ($P<0.012$) and total procedure ($P<0.02$) were significantly longer with manipulator use.

**Conclusion**
Intrauterine manipulator use during robotic hysterectomy for endometrial cancer increases duration but not histological or cytological outcome.

P-50

## SHOULD THE RISK OF CERVICAL CANCER IN PREGNANT WOMEN WITH CIN 2-3 AND THE SAFETY OF LLETZ DURING THE FIRST 15 WEEKS OF PREGNANCY LEAD TO REVISION OF GUIDELINES?

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**Introduction:**
Cervical intraepithelial neoplasia 2- 3 is a premalignant lesion and Large Loop Excision of The Transformation Zone (LLETZ) is the recommended treatment. During pregnancy observation is recommended due to the belief that during pregnancy there is no progression to malignancy and that treatment is associated with severe bleeding and abortions. We describe the Israeli experience in pregnant women diagnosed with CIN 2-3.

**Methods**:
Data were collected on 85 pregnant patients diagnosed with CIN 2-3 between January 2006 and February 2016.

**Results**:
43 women were conservatively followed up and 42 underwent LLETZ during the first 15 gestational weeks. The postpartum pathological results are known in 42 women who were conservatively observed: 3(7.1%) had cervical cancer, 28 (66.6%) - CIN 2-3, and 11(26.2%) had CIN1 or normal histology. The diagnoses of the 42 patients who have undergone LLETZ during the first 15 weeks were: invasive cancer in 3 patients (7.1%), CIN 2-3 or AIS in 36 (85.7%), and 3 women (7.1%) had CIN 1 or normal histology. None of them suffered severe bleeding. 34 women continued their pregnancy, 30 (88.2%) of them had term deliveries, two (5.9%) had late premature deliveries (34, 36 weeks), one pregnancy is ongoing (2.9%), and one patient had missed abortion (2.9%).

**Conclusions:**
7.1% of the women with CIN 2-3 diagnosis during pregnancy were diagnosed with invasive cancer. The LLETZ procedure during the first 15 weeks of pregnancy is safe. It is time to reconsider the recommendations about CIN 2-3 during the first trimester.

## P-51

### NEUTRAL ARGON PLASMA (PLASMAJET) CAN RESECT RECURRENT CANCER FROM ILIAC VESSELS

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**Case summary**

This 51-year-old woman presented with a left groin swelling. The lymph node biopsy revealed a squamous cell cancer of unknown origin. After exhaustive investigations on MDT's recommendation, resection of the left groin node, total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed. This did not reveal a potential focus of malignancy. Subsequently she had pelvic and left groin radiotherapy. Two years later a robotic pelvic LND was performed for recurrence. Adjuvant cisplatin therapy given. A further two years later a second pelvic side wall recurrence of 7 x 2 cm lesion was diagnosed. We resected the recurrent lesion using diathermy and PlasmaJet to dissect the lesion from the external iliac artery and vein.

**Discussion**

Pelvic side wall recurrence may complicate gynaecological cancer. The surgical treatment can include either exenteration or resection of isolated lesions. Surgery for pelvic side wall recurrence may warrant resection of iliac vessels which significantly alters short and long term complications particularly with the use of grafts. PlasmaJet instrument deploys neutral argon plasma which is generated by low voltage electricity. The device has a short learning curve. The plasma jet stream delivers thermal, kinetic and optical energy, all of which enhances tissue dissection. The device has the ability to vapourise tissue and the depth of penetration is about 0.5 mm to 2 mm. This permits fine dissection of tissue planes between critical structures and avoid morbid procedures.

This is the first description of PlasmaJet dissection of recurrent cancer from great vessels.

P-53

## SYMPTOMS IN THE DIAGNOSIS OF OVARIAN CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Objective:**
Quantitative evaluation of the accuracy of symptoms in the diagnosis of ovarian cancer in pre and postmenopausal women

**Methods:**
A prespecified protocol was registered with Cochrane. An electronic search using sensitive search strategies combining terms for ovarian cancer and associated symptoms was conducted across a range of databases including Medline, Embase and Cochrane from 2009 to February 2105 .

Women ≥18 years suspected of ovarian cancer were included with the exception of pregnant women. Studies with insufficient data to assess diagnostic test performance were excluded.

Reference standard is histology or clinical follow-up in women with conservative management

Test sensitivities and specificities will be pooled using bivariate meta-analysis for all, pre-menopausal and post-menopausal women. Forest plots will show the sensitivity or specificity of individual studies as well as the pooled average across studies. SROC plots will be produced to show accuracy.

**Results:**
An electronic search across the databases from 2009 until February 2015 identified 10 studies for full text screening. Study characteristics were extracted and quality assessment was undertaken based on Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) tool. Data was extracted to derive a 2x2 table for each study.

Statistical analysis is currently underway. A summary of strengths and limitations of evidence, risk of bias and summary measures of the meta-analysis will be presented.

**Conclusion:**
This review should provide information on the accuracy of symptoms and symptom scores as a triage test in the diagnosis of ovarian cancer

P-54

## NERVE SPARRING TOTAL LAPAROSCOPIC TRACHELECTOMY IN A 'BUDDY' OPERATING INSTITUTE: DEMONSTRATION OF TECHNIQUE AND REVIEW OF OUTCOMES

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**Introduction**
Radical trachelectomy is a valuable and oncologicaly safe fertility-preserving treatment for young women with early-stage cervical disease. The Laparoscopic Radical Trachelectomy (LRT) has the advantage of direct, enhanced vision, allowing detailed dissection to preserve uterine arteries and nerve fibres, whilst reducing peri- operative morbidity. An established buddy system exists in our institution and we present our considerable experience in LRT.

**Methods**
24 patients with Stage 1b cervical cancer were identified retrospectively. Two experienced gynaecological oncologists performed a laparoscopic pelvic node dissection (PND), radical nerve sparring technique and insertion of a cervical suture followed by stump amputation with LiNA loop system. The vaginal radical trachelectomy cohort (VRT) represented those prior to adopting LRT, underwent a laparoscopic PND and radical vaginal dissection.

**Results**
We present a video description of our laparoscopic technique and present results for surgical, oncological and reproductive outcomes over a 5-year period in a matched case control study.

There were 12 closely matched patients in each arm. Operative time was significantly shorter in the VRT group (mean 158.1) versus LRT group (210.3) p=0.018- this represents a learning curve effect. Fewer intraoperative complications occurred in LRT group 2/12 (16%) [CI 95% 0.035- 0.46] compared to vaginal. 4/12 (32%)[CI 95% 0.09-0.65] Blood loss was significantly lower in LRT arm, (Mean 17.1g/L vs 10g/L p=0.02) hospital stay was in the shorter laparoscopic group. (mean 3days VRT vs 2.5LRT).

**Discussion**
We demonstrate our technique for LRT and show the considerable benefits of a 'Buddy' system for safety, feasibility and improving outcomes.

P-55

## THE IMPACT OF OBESITY, DIABETES AND METABOLISM ON ENDOMETRIAL CANCER: A FEASIBILITY STUDY

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**Introduction**
Obesity, metabolic disorders and endometrial cancer (EC) are rapidly increasing. The proportion of overweight/obese women has increased (48.6% - 57.2%) in the last ten years (1). Obesity is associated with a 5-fold increase in EC incidence(2). Bariatric surgery leads to substantial weight loss and improvement of insulin resistance(3)and glucose homeostasis(4).

**Methods**
Women undergoing bariatric surgery and a control population of BMI-matched women are prospectively recruited. The incidence of abnormal (>4mm) endometrial thickness at baseline and how this changes with the correction of obesity and/or hyperinsulinaemia in the study as compared to controls will be assessed. We will measure serologic markers to identify subgroups of hyperinsulinaemia, high/low levels of bioavailable IGF-I and oestradiol and how these may change following surgery-induced weight loss and when compared to controls. Additionally, we will evaluate mRNA levels as measure of gene expression of insulin/IGF/mTOR, adipokine and inflammatory signalling pathways with quantitative RT-PCR.

**Results**
51 bariatric patients recruited; 23 are postmenopausal (all BMI >35.0), 39.2% of participants have diabetes. In the control group of 48, 77% are overweight/obese (BMI>25.0) and postmenopausal. 12.5% participants have diabetes. Serum marker and gene expression data will be presented.

**Conclusions**
Published data on the effects of surgery-related weight loss on the endometrium are limited. Analysis of this cohort may contribute to a better understanding of metabolic dysregulation, insulin resistance and its involvement in endometrial carcinogenesis.

P-56

## POST-LYMPHADENECTOMY SEVERE HYPONATRAEMIA IN A PATIENT WITH VULVAR CARCINOMA: A CASE REPORT

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**Introduction**
Treatment of vulvar cancer often includes wide local excision (WLE) of the lesion and bilateral groin node dissection (BGND)1. Although previous studies have demonstrated the high complication rates surrounding lymphadenectomy2, its role in electrolyte disturbance is not well documented.

**Case report**
We present the case of an 85-year-old lady diagnosed with moderately differentiated Squamous Cell Carcinoma of the vulva on WLE. The patient underwent a repeat WLE and BGND due to tumour size and incomplete excision. The operation was uncomplicated and bilateral closed vacuum drains were placed in both groins.
However, from day 1 post-operatively drain output was high(mean 967ml/24hours) and serum sodium(Na) levels began to drop. Na steadily decreased from 134mmol/mol to 122mmol/mol by day 9, but the patient remained asymptomatic.
Initial approach included fluid restriction, sodium replacement and commencement of fludrocortisone acetate. The following relevant investigations showed serum osmolality 261mmol/mol, urine osmolality 316mmol/mol, urine sodium <10mmol/mol and random cortisol 1164. On day 10 the patient was noted to be peripherally cyanosed, hypoxic, tachypnoeic and acidotic with Na of 119mmol/mol. She required escalation of care on high dependency unit and was treated with fluid bolus of 500ml 1.25% NaHCO3- followed by IV normal saline(50ml/hour) along with oral sodium bicarbonate leading to overnight biochemical and clinical improvement.

**Conclusion**
Among the multiple causes of hyponatraemia, dehydration secondary to excessive lymphoedema or lymphocyst formation should always be considered in gynaecological oncology patients following BGND or other lymphadenectomies, i.e. pelvic +/- para-aortic. Close fluid balance monitoring and replacement could prevent electrolyte disturbances.

## P-57

### "SURAL NERVE GRAFT FOR MANAGEMENT OF OBTURATOR NERVE RESECTION AT DEBULKING SURGERY FOR OVARIAN CANCER"

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**Introduction:**
Obturator nerve resection/injury at cytoreductive surgery for ovarian cancer is rare. Achieving complete cytoreduction at primary surgery has the best prognosis in terms of overall survival. Occasionally the tumour involves the obturator nerve and the nerve is transected either inadvertently at dissection or intentionally to completely cytoreduce.

Obturator nerve injury causes sensory impairment and loss of adduction of thigh. This resulting morbidity can be debilitating. It is useful to know the management of obturator nerve injury to minimise morbidity. We discuss an interesting case of complete cytoreduction, where the oburator nerve was resected and subsequently repaired using a sural nerve graft.

**Case Synopsis:**
A 66 year old lady was scheduled for primary cytoreductive surgery for ovarian cancer. She underwent a complete staging laparotomy which included a total abdominal hysterectomy, omentectomy, pelvic and para-aortic lymph node sampling and en-bloc resection of tumour in pouch of Douglas. A 4cm right pelvic nodal mass encasing the iliac vessels was found involving the right obturator nerve and the obturator nerve was transected. A complete cytoreduction was achieved. The nerve was repaired using a sural nerve graft harvested from the left leg. The patient underwent a rigorous postoperative physiotherapy regimen with rapid improvement in motor & sensory function.

**Conclusion:**
We recommend immediate repair of the nerve using microsurgical techniques and rehabilitation programme with physiotherapy in these rare cases. Occasionally, the defect is large enough and requires repair with sural nerve graft. This technique has a good outcome with excellent recovery.

P-58

## REMNANT TUBAL TISSUE ON OVARIAN SURFACE FOLLOWING OPPORTUNISTIC SALPINGECTOMY

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**Introduction**
Accumulating evidence of tubal origin has led to opportunistic bilateral salpingectomy(OBS) being undertaken for ovarian cancer prevention. The gold-standard OBS procedure is complete excision of tubal, especially distal/ampullo-fimbrial tissue. The presence of residual fimbrial/tubal tissue on ovarian surfaces following salpingectomy has not been prospectively evaluated.

**Method**
This is a prospective analysis of patients undergoing gynaecological surgery including salpingo-oophorectomy for benign indications or low-risk endometrioid endometrial cancer. The surgical procedure included uni/bilateral salpingectomy followed by uni/bilateral oophorectomy. Separately retrieved tubes and ovaries were serially sectioned and completely examined histologically. Chi-square/Fisher's exact tests evaluated categorical and Mann-Whitney continuous variables(SPSS-21).

**Results**
25 consecutive cases (mean age=54.8years (SD=5.0), comprising 41 adnexae (9=unilateral, 16=bilateral) undertaken between 1/10/2015 and 5/1/2016 were analysed. 17 (68.0%), 5 (20.0%) and 3 (12.0%), procedures were performed by consultant gynaecologists, subspecialty/specialist trainees and consultant gynae-oncologists respectively. 12/25 (48.0%) and 13/25 (52.0%) were laparoscopic and laparotomy respectively. 5/25 (20.0%,CI:6.8%,40.7%) patients or 5/41 (12.2%,CI:4.1%,26.2%) showed residual microscopic fimbrial tissue on the ovarian surface. Tubes/ovaries were completely free of adhesions in 23 cases. Two cases had dense adhesions involving adnexae; however, neither had residual fimbrial tissue on the ovarian surface. The presence of residual fimbrial tissue on the ovary was not associated with route of surgery (laparoscopy(8.3%)/laparotomy(30.8%),p=0.322) or surgical experience (consultant(20%)/trainee(20%),p=0.1).

**Conclusion**
Residual fimbrial tissue remains on the ovary following salpingectomy in a significant proportion of cases, and could represent a potential site for ovarian carcinogenesis. This could impact on the level of risk-reduction from OBS and requires further research.

P-59

## MRI - THE DIAGNOSTIC ACCURACY - IS IT AN UNNECESSARY INVESTIGATION IN SO CALLED LOW RISK GRADE 1 UTERINE CANCER?

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**Objectives:**
Pre-operative magnetic resonance imaging (MRI) has a vital role in endometrial cancer. MRI that suspect less than 50% myometrial invasion (Stage 1A) are managed in secondary care, greater than 50% myometrial invasion (Stage 1B or higher) are referred to cancer centre. The main outcome measure was correlation between pre-operative MRI and subsequent final histology.

**Methods:**
99 patients from Heart of England NHS Foundation Trust were identified to have had a pre-operative MRI and final histology of Grade 1 endometrial cancer confirmed between 1st January 2014 and 31st December 2015. Electronic records were used to collect data from histopathology/imaging/documents/letters.

**Results:**
Final histology showed stage 1A disease in 63.6% (63) and stage 1B or higher was in 36.4% (36);1 in 3 patients (36 out of 99) will have more than stage 1A. Sensitivity of MRI in predicting <50% myometrial invasion was 87.3% and specificity was 63.9%. The positive predictive value (PPV) was 80.9% which measures the probability of diagnosing less than 50% myometrial invasion. The negative predictive value (NPV) was 74.2% which is the probability of diagnosing stage 1B or above.

**Conclusions:**
We feel MRI has good correlation in detecting early stage disease however 1 in 4 patients of suspected advanced stage (1B/more) on MRI will have a low grade disease. 1 in 5 patients suspected to have stage 1A disease on pre-operative MRI will be diagnosed with advanced stage. We recommend that the MRI is an important tool and should continue to be reported by the radiologist with specialist gynaecology interest.

P-60

## IMAGE GUIDANCE – AN EMERGING SURGICAL TOOL IN GYNAECOLOGY ONCOLOGY – FIRST EXPERIENCE IN A CASE OF CERVICAL CANCER

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Minimal access surgery has become the established approach in gynaecological surgery providing many benefits compared with the open route. However one disadvantage is a reduction in haptic feedback, which is reduced in laparoscopic surgery and currently entirely absent in robotic surgery.

Image guidance is one technique that can compensate for this deficit by increasing the visual information provided to the surgeon as well as revealing subsurface anatomy to the surgeon.

We report on our initial experience using this emerging surgical tool in a case of cervical cancer.

A 26 year old woman presented with post-coital bleeding to colposcopy. A LLETZ procedure showed poorly differentiated squamous cell carcinoma. FIGO staging was thought to be 1b1. The patient underwent standard segmental imaging as well as diffusion weight MRI and PET CT. This revealed three suspicious lymph nodes, which required excision to complete staging.

Models for image guidance was generated using the DICOM images from the range of imaging modalities with important and relevant information manually segmented using ITK-SNAP. The surgeon viewed the 3D images on a monitor whilst wearing 3D glasses prior to and during the procedure. The view was manipulated using an iPad. Image guidance depicting important anatomy and stages of the operation could be saved and subsequently shown when needed.

All three nodes were taken with no intraoperative or postoperative complications.Surgeons' feedback was positive; it increased both their confidence in targeting the abnormality and their awareness of the anatomical location of surrounding structures.Histology confirmed lymph nodes were all negative.

## P-61

### A CASE OF RECURRENT EXTRA-MAMMARY PAGET'S DISEASE OF THE BLADDER

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Extra-mammary Paget's disease (EMPD) is a rare cutaneous adenocarcinoma. It accounts for less than 1% of vulval neoplasias. Metastases to the urinary bladder from EMPD of the vulva are rare with only seven cases reported in literature.

This case refers to an 84-year old female who presented with a 9-month history of vulval soreness, irritation and bleeding. On examination there was a large erythematous plaque affecting the right labia majora and biopsies confirmed vulval EMPD. Past medical history included Dukes C sigmoid adenocarcinoma and thyroid malignancy as well as multiple medical co-morbidities. Topical imiquimod was started, with no response after several months' treatment and she underwent a wide local excision. The patient subsequently required several further excisions for recurrent disease over the next few years and finally a radical excision with split skin graft reconstruction six years after original diagnosis.

Three months later she complained of urethral spasm, vulval pain and haematuria. Cystoscopy confirmed new EMPD of the urethra and bladder and recurrence of vulval EMPD. CT scan ruled out occult malignancy. It is estimated that EMPD is associated wih adenocarcinoma elsewhere in approximately 9-32% of cases.

After urology review, an appropriate conservative approach was taken and she was referred to the pain services for palliative care. Paget's metastases to the bladder are extremely rare and usually present several years following initial diagnosis. Any patient with EMPD complaining of urinary symptoms should be referred for cystoscopy.

P-62

## MANAGEMENT OF LOW VOLUME EARLY CERVICAL CANCER- IS LESS RADICAL SURGICAL APPROACH SAFE?

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**Introduction**
In women with low volume early cervical cancer it is not clear whether less radical surgical intervention is safe. It is uncertain of the effectiveness of HPV test of cure for follow up in these women. We set out to answer these clinical questions.

**Methods:**
A retrospective analysis of 28 cases of early stage cervical cancer at the Pan-Birmingham Gynaecological Cancer Centre in between January 2008 and August 2014.

**Results:**
The median age of women was 38 years. 16 women had stage 1B1, 12 had stage 1A1, and one woman had stage 1A2 disease.

Two women had one loop excision. Eight women had repeat loop excision. Only one patient in the repeat loop excision treatment group had subsequent radical hysterectomy and pelvic node dissection with histology showing no residual cancer. Nine women had simple hysterectomy/trachelectomy all with no histological evidence of residual cancer.

Nine women had radical hysterectomy/trachelectomy and pelvic node dissection, of which five women had no residual disease and four women had cancer completely excised. In this group of women, all nodal specimens were cancer free. Median follow up was 20 months and all women are still alive and disease free. 22 out of 28 women had no residual disease when further surgical intervention was performed.

**Conclusion**
We conclude that current surgical approach could be an over treatment in low volume cervical cancer. We also recommend further research into the role of HPV test of cure as a follow-up tool in early stage cervical cancer.

P-63

## ARE WE BEING TOO CONSERVATIVE IN OUR MANAGEMENT OF VULVAL SQUAMOUS CELL CANCER? A DEPARTMENTAL REVIEW OF CURRENT MANAGEMENT

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**Background:**
The RCOG and the Royal College of Pathologists (RCPath) criteria should be followed in the excision and histopathological reporting of vulval carcinoma. Several prognostic variables have been reported in literature that predict recurrence and overall survival. We reviewed our cases to determine factors influencing recurrence rates.

**Method:**
Retrospective analyses of eligible cases between 1st January 2007 and 31st December 2013 using SPSS®.

**Results:**
Total of 71 patients were diagnosed with vulval Squamous Cell Carcinoma. Mean age at diagnosis was 74.9 years. FIGO stage was 41(57.7%), 8(11.2%) and 14(19.7%) respectively for stage 1, 2 and 3.

55(77.5%) patients received surgery alone, 13(18.3%) surgery and radiotherapy, 2(2.8%) palliative radiotherapy, 1 patient declined treatment.

Overall median survival was 84 months. Overall recurrence rate was 30% (21 cases) with mean time to recurrence of 22.6 months (SD = 23.9). 15/21 were local vulval recurrences, whilst 6 had groin recurrences of which four did not have groin node dissection at primary surgery.

The predictors of recurrence were lesion size and depth of invasion. LVSI, margin involvement and background VIN at excision margins did not reach statistical significance.

**Conclusions:**
The size of the lesion and depth of the tumour were the most significant predictor of recurrence and overall survival in vulval SCC. Margin involvement and incompletely excised VIN did not affect recurrence or survival. Women with advanced stage, larger tumour and greater depth of invasion remains at highest risk of recurrence. Less radical surgery or conservative follow-up is not recommended in these cases.

P-65

## DIAPHRAGMATIC DISEASE IN ADVANCED OVARIAN CANCER (AOC) AT THE PAN-BIRMINGHAM GYNAECOLOGICAL CANCER CENTRE (PBGCC): INCIDENCE, DETECTION AND TREATMENT

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**Objectives**
Diaphragmatic involvement in AOC is common. When surgically managed, complete cytoreduction rates and 5-year survival significantly increase. This study analyses diaphragmatic surgical procedures performed, evaluates post-operative morbidity and determines positive predictive values (PPVs) following pre-operative imaging and intra-operative inspection.

**Methods**
A retrospective review of all surgeries for stage 3/4 AOC performed between 16/8/07 – 3/2/14 as recorded on the MDT database was used to identify women who received diaphragmatic surgery. Data was collected from electronic records, clinical notes, pathology and radiology reports. PPVs were calculated by correlating pre-operative imaging and intra-operative findings to histopathological results.

**Results**
441 patients were identified. Diaphragmatic disease was found in 118 patients of which 51 (43.22%) underwent diaphragmatic surgery. Surgical management consisted of: resection 11 cases (21.57%), peritonectomy 34 cases (66.67%) and electrosurgical ablation 6 cases (11.76%). 18 of these 51 (35.3%) were identified on pre-operative imaging. PPVs were 94.4% from pre-operative imaging and 95.3% from intra-operative detection. Grade 3+ complications occurred in 5 cases (9.8%) although only 2 were directly attributable to diaphragmatic surgery. Diaphragmatic surgery specific morbidity occurred in 8 (15.7%) patients. No diaphragmatic surgery related death occurred.

**Conclusions**
Diaphragmatic involvement is common in AOC. Diaphragmatic surgery in experienced hands does not considerably increase complications or morbidity. Pre-operative imaging and intra-operative assessment have high PPVs in detecting diaphragmatic disease, allowing reliable evaluation and planning of surgical intervention. A negative scan pre-operatively does not negate the need for intra-operative assessment. Further studies are needed to calculate sensitivity and specificity for cross sectional imagining.

P-66

## DETECTION AND MANAGEMENT OF DISEASE RECURRENCE IN ADVANCED OVARIAN CANCER

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**Introduction**
Follow up regimes for patients treated for advanced ovarian cancer are controversial. We aimed to document the presentation and management of those with recurrent disease at the Pan-Birmingham Gynaecological Cancer Centre.

**Methods**
A retrospective review of all surgeries for stage 3/4 epithelial ovarian cancer performed between 16/8/07 – 3/2/14 in which complete (R0) or optimal (<1cm) (R1) cytoreduction had been achieved and a recurrence recorded prior to 1/7/15.

**Results**
Out of the 441 patients operated for advanced ovarian cancer in our Centre, 246 cases were eligible for our current study. 212 (86.18%) patients had recurrence detected at a routine clinic appointment ,5 (2.03%) patients expedited their clinic appointment and 25 (10.16%) had recurrence detected during an emergency admission.

109 (44.31%) patients were symptomatic at the clinical encounter that detected recurrence. All patients expediting their appointment were symptomatic. Disease was clinically detectable in 56 (22.76%) patients. Elevated CA125 levels alone were the indication for imaging in 119 (48.37%) patients.

Recurrent disease was managed by: chemotherapy (87.29%), surgery (7.63%) and palliation (5.08%). Of the 12 patients receiving best supportive care: 1 had expedited her appointment; 4 presented as an emergency; 7 were seen in a routine outpatient appointment; and 10 were symptomatic at review. Best supportive care was more common outcome in those with symptomatically detected recurrences rather than CA125 detected. (p=0.398)

**Conclusions**
Structured follow-up may delay diagnosis of patients with symptomatic disease recurrence. Clinical examination detects very few recurrences missed by other modalities.

P-67

## "OPTIMAL" CYTOREDUCTION IS NOT THE OPTIMAL SURGERY IN PATIENTS RECEIVING NEOADJUVANT CHEMOTHERAPY (NACT) IN ADVANCED OVARIAN CANCER (AOC)

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### INTRODUCTION

Residual disease following cytoreductive surgery in ovarian, peritoneal and tubal cancer has repeatedly been demonstrated to be the key modifiable determinant of survival. Although optimal (<1cm) cytoreduction carries a survival advantage in primary cytoreductive surgery, the benefit in surgery after neoadjuvant chemotherapy is less well established. The purpose of this study was to ascertain survival in patients undergoing cytoreductive surgery following NACT.

### METHODS

We undertook a retrospective review of all interval and delayed cytoreductive surgeries performed between 16th August 2007 and 3rd February 2014 by subspecialty trained gynaecological oncologists at the Pan-Birmingham Gynaecological Cancer Centre. Cytoreduction was stratified into complete (R0), optimal (<1cm) (R1) and suboptimal (R2) categories.

### RESULTS

293 cases were identified for analysis. Mean cytoredution rates were: Complete 187 cases (63.82%), Optimal 42 cases (14.33%), Suboptimal/Palliative 64 cases (21.84). Median overall survival was 37.052 months (95% CI 33.53 – 40.57) months. Median overall survival for R0, R1 and R2 outcomes was 44.58 (95% CI 35.16 – 54.00) months, 29.52 (95% CI 22.22 – 36.82) months and 27.12 (95% CI 19.93 – 34.32) months respectively ($p<0.05$).

### CONCLUSION

Potential cytoreductive outcomes should be clearly explained to patients pre-operatively. The median survival benefit from achieving R1 (<1cm) compared to R2 is negligible (9.6 weeks) and therefore in surgery following NACT, when R0 is not attainable, R1 should only be the goal when less morbid procedures are required or more morbid procedures, such as bowel resection, are needed to palliate disease likely to impact on the patient's immediate health.

P-68

## LOCATIONS OF RECURRENT DISEASE IN ADVANCED OVARIAN CANCER (AOC) AT THE PAN-BIRMINGHAM GYANECOLOGICAL CANCER CENTRE (PBGCC)

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**Objective**
To identify patterns of disease recurrence in patients who received for treatment of AOC.

**Methods**
A retrospective review of all cytoreductive surgeries achieving complete (R0) or optimal (<1cm) (R1) cytoreduction and correlation of complexity of surgery with location(s) of recurrence. All operations were performed between 16/8/07 and 3/2/14 by subspecialty trained gynaecological oncologists at the PBGCC with all recurrences identified by 1/7/15.

**RESULTS**
Out of 441pts, R0/1 cytoreduction was achieved in 276 (62.59%). Out of this, 254 patients had reoccurred with follow up details available. The peritoneum was involved in 71.73% of patients and was more common in R1 compared to R0 surgeries (p=0.02). Ascites was less prevalent in those achieving R0 compared to R1 (p=0.02). Subgroup analysis suggested significantly less ascites (p=0.01) and a trend towards reduced peritoneal involvement (p>0.05) in those receiving more extensive surgery.

19.23% of patients who required high complexity surgery to achieve R0 experienced only retroperitoneal recurrences. Women with stage 4 disease demonstrated more extra-abdominal recurrences than those with stage 3 disease (p<0.001). Ascites was more common in women with stage 3 disease than stage 4 disease (p=0.046). No difference was seen when comparing primary surgical and neoadjuvant treatment approaches.

**CONCLUSIONS**
Peritoneal disease is the most common site of recurrence in AOC. Incorporation of advanced procedures reduces the presence of ascites and possibly pleural effusions and peritoneal disease in a recurrent setting. Systematic retroperitoneal lymphadenectomy may have benefit in patients requiring extensive surgery to achieve complete cytoreduction, by potentially reducing retroperitoneal recurrences.

P-69

## KEY PERFORMANCE INDICATORS FOR OVARIAN DEBULKING SURGERY AT THE PAN-BIRMINGHAM GYNAECOLOGICAL CANCER CENTRE (PBGCC)

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**Introduction**
No standard outcome measures are available for ovarian cancer surgical services at the moment. To demonstrate a safe and efficient ovarian cancer debulking service, the Pan-Birmingham Gynaecological Cancer Centre carries out regular audits on this surgical activity.

**Methods**
A retrospective review of all patients diagnosed with stage 3/4 epithelial ovarian cancer between 16/8/07 – 3/2/14 was performed as part of routine governance. Patients were identified from the PBGCC MDT database and cross referenced with the surgical operating log. All notes were formally reviewed to attain preoperative, operative, postoperative and follow up data.

**Results**
Total Patients Diagnosed with stage 3/4 epithelial ovarian cancer: 593

% patients operated: 441 (74.37%)
Complete (R0): 276 (62.59%)
Optimal (<1cm) (R1): 63 (14.29%)
Suboptimal/Palliative/Unknown (R2): 102 (23.13%)
NACT/PDS data: NACT 295 (66.89%)
PDS = 140 (31.74%)
Unknown: 6 (1.36%)
Rate of grade 3-5 complications 33 (7.48%)
30-day mortality: 3 (0.68%)
Rate of rectosigmoid resection/MPE = 19.95%
Rate of diaphragm operation = 10.20%
Rate of splenectomy = 7.47%
Mean operating time: 195.89 minutes*

*Mean operating times have increases year on year 2007: 136.25 mins, 2008: 144 mins, 2009: 179 mins, 2010: 187 mins, 2011: 198 mins, 2012: 226 mins, 2013: 222 mins, 2014: 285 mins
Survival (operated cases): Median 38.70 months 95%CI (34.88 – 42.53)

**Conclusion:**
Although no universally accepted outcome measures exist in ovarian cancer surgery, we encourage the publication of key performance indicators for Cancer Centres with activity in debulking surgery for advanced ovarian cancer.

P-70

## THE PROGNOSTIC SIGNIFICANCE OF TUMOUR VOLUME AND LYMPHOVASCULAR SPACE INVASION IN EARLY CERVICAL CANCER

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**Aim**:
To study the correlation between various pathological prognostic factors including tumour volume, lymphovascular space invasion (LVSI), perineural invasion (PI) and clinical outcomes including lymph node metastasis, recurrence and survival in patients with stage IA-1B1 cervical cancer.

**Methods**:
A retrospective audit done using the departmental database for patients who received surgical treatment for stage 1 cervical cancer at the Pan-Birmingham Gynaecological Cancer Centre between September 2009 to July 2014.

**Results**:
141 eligible patients were identified with stage distribution as follows: IA1 in 14 (10%), IB1 in 115 (84%), IB2 in 8 patients (6%).

LVSI was detected in 73/134 patients (51%), PI in 9/84 patients (11%), positive LNs in 9/111 patients (8%). Tumour volume was calculated in 62 patients preoperatively with mean volume of 98.2 mm3 (1-2200) and 28 patients postoperatively with mean volume of 435.5mm3 (1-11466). 108 patients (80%) had the tumour diameter < 2cm. Follow up data was available on 113 patients with a mean period of 30 months (3-72months). Recurrence was detected in 20 patients (18%) with site distribution as follows: vault (20%), pelvic (60%), nodal (10%), and upper abdominal (10%).

Statistical analysis by chi-square test showed LVSI (p= 0.048) and PI (p=0.001) were associated with LN metastasis while tumour volume>500 mm3 (p=0.002), tumour largest dimension ≥2cm (p=0.001) and PI (p=0.012) linked to recurrence.

**Conclusion**:
Tumour volume, LVSI, PI and tumour size can be used to determine a subset of low risk stage I cervical cancer patients that can benefit from less radical surgery. Further analysis will follow.

P-71

## RESOURCE IMPLICATIONS BY ADOPTING SUPRA-RADICAL SURGERY AS STANDARD PRACTICE IN OVARIAN CANCER

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The Recent report by the Chief Medical Officer for England showed that survival after ovarian cancer in the UK is one of the lowest in the OECD nations with 5-year survival of 36%. The report suggests that our survival is worse in spite of less number patients with stage 3/4 (1-year survival 70.3% v 82.3%). They suggest that the most important predictor of survival is volume of residual disease. NICE also suggests that the aim of surgery should be the absence of macroscopic disease.

A surrogate marker for extend of surgical effort is length of surgery. Recently the CHORUS study was published suggesting that the median operating time was 2 hours achieving rates of 41% complete/optimal debulking for primary surgery. Since 98% of patients were recruited from within the UK this study is a very good representation of the state of surgery in the UK.

The UK needs to move into supra-radical surgery for ovarian cancer in order to bring our patient's survival in line with other OECD nations. By doing so operating time will be significantly increased putting further pressure in the NHS resources.

At Norfolk and Norwich university Hospital we have carried out supra-radical surgery for ovarian cancer for over the last three years. We have operated on 122 cases of stage 3c/4 ovarian cancers with a complete/optimal rate of 89.4%. 56.9% of cases had NACT while 43.1% went for primary surgery. In order to achieve this rate of complete/optimal debulking we carried out diaphragmatic stripping/resection in 53.2% of cases, large bowel resection in 71.5%, splenectomy in 20.1% cases and peritoneal stripping other than diaphragmatic in 66% of cases. One death occurred during the same period (0.8%). The mean length of stay was 10.4 +/- 1.5 days with median length of 9 days. The re-admission rate was 8.2%. Mean length of operating time (excluding anaesthetic) was 5 hours 10 min and median time 5 hours 8 min.

During the same time there were 12 cases of suboptimal debulking due mainly to significant disease at the mesenteric border of small bowel or porta hepatis. The average length of surgery was 1 hour 15 min, median length of stay 6 days, re-admission rate of 9%.

It is clear that if we are going to deliver the same level of survival than other OECD countries we need to move to supra-radical surgery in the UK. Training will be a significant issue since the surgical procedures involved and difficult, lengthy and high risk. However we have shown that this surgery can be performed with minimal mortality and morbidity, low re-admission rate and a reasonable length of stay.

However, we need to plan for the significant increase in resources that this practice will involve. The number of days in hospital in our unit has increased by 50% from 6 to 9 days. The length of surgery has increased by 300% (from two hours to six hours). The need for significant increase in operating time should be addressed to provide surgery at the right time. These operations are complex and long and a buddy-operating system should be in place and remunerated accordingly. Access to HDU should be standard practice since the benefits for the patients are obvious.

Supra-radical surgery is complex, difficult and takes long time but the benefits to the patients are very clear. We must push forward to make this surgery the standard across the country and the resources required should be made available.

P-74

## INFRARED SPECTROSCOPY FOR THE BIOMOLECULAR RISK ASSESSMENT OF EARLY STAGE VULVAL SQUAMOUS CELL CARCINOMA

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**Introduction**
Predicting which women will suffer recurrence of early stage vulval squamous cell carcinoma (SCC) is challenging. The tumours in those who suffer recurrence may have identifiable biomolecular characteristics. Fourier transform infrared spectroscopy (FTIR-S) probes the broad bimolecular composition of tissue and offers a potential tool for assessment of recurrence risk.

**Objective**
To evaluate the ability of FTIR-S to differentiate between early stage vulval SCC that recurs and that which does not recur.

**Methods**
Pathology databases were interrogated to identify fixed paraffin embedded tissue from FIGO stage 1a, 1b and 2 non-verrucous vulval SCC with and without disease recurrence within 5 years. Spectroscopic mapping was performed on sectioned tissue and correlated with recurrence status. The spectral data was corrected for non-tissue spectral signal using an extended multiplicative signal correction and spectral variance was explored using principal component analysis. A multivariate linear discriminant classification model was developed and validated with leave one sample out cross validation.

**Results**
In total tissue from 29 women underwent analysis. Recurrence and non-recurrence groups were statistically non-heterogeneous for other factors affecting recurrence. The discriminant model demonstrated FTIR-S was able to correctly classify those women who suffered disease recurrence with sensitivity of 85% and specificity of 88%, with an area under the receiver operator curve of 0.86.

**Conclusion**
FTIR-S offers a potential tool for supporting the identification of early stage vulval SCC at high risk of recurrence. Further study is needed to analyse these findings in light of known molecular changes in vulval SCC.

P-75

## HE4 IN THE DIAGNOSIS OF OVARIAN CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Objective:**
Critical evaluation of the accuracy of HE 4 for the diagnosis of ovarian cancer in pre and post menopausal women

**Methods:**
A prespecified protocol was registered with Cochrane. An electronic search across a range of databases including Medline, Embase and Cochrane was conducted using sensitive search strategies combining terms for the target condition (ovarian cancer) and the index test (HE4).Women ≥18 years suspected of ovarian cancer were included with the exception of pregnant women. Studies with insufficient 2x2 data to assess diagnostic test performance were excluded.

Reference standard is histology or clinical follow-up in women who have not undergone surgery.

Test sensitivities and specificities for common thresholds will be pooled using bivariate meta-analysis for all women, as well as separate analyses for pre-menopausal and post-menopausal women. Forest plots will show the sensitivity or specificity of individual studies as well as the pooled average across studies. SROC plots will be produced to show the accuracy of the HE4 across thresholds.

**Results:**
An electronic search across the databases from 2009 until February2015 identified 27 studies for full text screening. Study characteristics was extracted and quality assessment was undertaken based on Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) tool. Data was extracted to derive a 2x2 table for each study.

Statistical analysis is currently underway. A summary of strengths and limitations of evidence, risk of bias and summary measures of the meta-analysis will be presented.

**Conclusion:**
This review should provide information on the accuracy of HE4 and different thresholds for ovarian cancer.

## P-76

### CAN KCNK1 FILL AN UNMET CLINICAL NEED IN THE QUEST FOR A PROGNOSTIC BIOMARKER IN HIGH GRADE SEROUS CARCINOMA OF THE PELVIS?

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**Background**
We present a novel study of the potassium channel gene KCNK1 as an emerging biomarker in ovarian cancer. KCNK channels facilitate the selective permeation of K+ across the cell membrane. Dysregulation of these channels has been implicated in a number of tumourigenic processes that confer a selective advantage to the cancer cells.

Relapse with HGS Carcinoma of the Pelvis is common, currently there are no validated biomarkers to predict those who will recur early and who may benefit from more intense follow-up..

**Methods**
Immunohistochemisty staining for KCNK1 was performed on a validated Tissue Micro Array (TMA) available from NI Biobank, containing over 200 samples representing all epithelial ovarian cancer histologies including High Grade Serous, Endometrioid and matched metastatic tissue. The findings were correlated with clinico-pathological data, compared with public available datasets and survival data generated, looking a overall (OS)and progression free survival. (PFS)

**Results**
A statistically significant increase in PFS and OS is observed in tumours with high expression of KCNK1 in ovarian cancer when all histologies are assessed. High expression of KCNK1 in HGS samples is associated with poor OS. A statistically significant (p 0.002) survival benefit is observed with regard to endometrioid ovarian cancer. Conversely, high expression of KCNK1 conferred a better prognosis.

**Conclusion**
This is unpublished work that demonstrates the potential role of KCNK1 in ovarian cancer. This novel biomarker will stratify patients into prognostic groups by detecting KCNK1, allowing tailoring of clinical follow up depending on KCNK1 expression.

P-77

## PALLIATIVE CARE IN GYNAECOLOGY ONCOLOGY: LESSONS TO BE LEARNT FROM A TERTIARY REFERRAL CENTRE

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**Background**
Holistic end of life care enables optimum quality of life prior to death. Recognition of the dying patient is paramount in ensuring provision of best management in collaboration with the specialist palliative care team.

**Aims**
Primary objective: to assess adherence to National guidance for end of life management.

Secondary objective: to identify indicators of poor prognosis.

**Methods**
This retrospective cohort study included all women with gynaecological malignancies who died within 100 days of discharge 01/14-08/14. Documentation of care was audited against standards from the National AMBER care bundle (ACB) and data collated from case notes, electronic records, GP and bereavement office records. Following service modifications the audit was repeated 01/15-08/15.

**Results**
Of the 36 patients included 32 (89%) had advanced gynaecological malignancy and were suitable for the ACB. Metastatic disease was the primary cause of death in 22 (61%).

Documentation of guideline compliance was highly variable (5-100%), reflecting the complexities of managing end of life alongside investigation and management of reversible causes. Involvement of palliative care resulted in greater guideline compliance across the four key areas, (communication, forward planning, documentation, and team collaboration). Compliance improved further following introduction of palliative care weekly ward rounds.

**Conclusions**
Recognition and management of the dying patient requires a multidisciplinary approach and initiation of palliation should not be deferred until completion of medical investigation. Shared working with palliative care in this way maximises quality and ensures a holistic approach.

P-78

## THE ROLE OF INTERVENTIONAL RADIOLOGY IN THE MANAGEMENT OF INTRACTABLE HAEMORRHAGE IN PALLIATIVE GYNAECOLOGICAL ONCOLOGY: AN EXPERIENCE OF DEVELOPING THE SERVICE IN A CANCER UNIT

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Intractable haemorrhage is a distressing and potentially fatal consequence of advanced malignancy. Interventional radiological procedures have demonstrated utility in obstetric haemorrhage and some cancers, but they are infrequently used in the treatment of haemorrhage in gynaecological malignancy. In this case series we present three gynaecological patients from our cancer unit where interventional radiology was successfully used to control haemorrhage in a palliative setting. We describe our early experience of developing this service.

A 53 year old with stage IV vulval squamous cell carcinoma (SCC) experienced catastrophic haemorrhage due to metastatic invasion of her femoral artery. She underwent emergency endovascular stenting, which successfully controlled the haemorrhage. A 32 year old with stage IV cervical SCC was transferred from the community with profound anaemia as a result of persistent vaginal bleeding: embolization of her right internal iliac artery successfully permitted her return to her preferred palliative hospital. A 59 year old with metastatic uterine sarcoma, and a poor response to pelvic radiotherapy, presented with significant vaginal bleeding. Angiography demonstrated a vascular uterine tumour. Embolisation was performed, and endovascular balloons were used during an emergency hysterectomy to reduced intraoperative haemorrhage.

The use of endovascular procedures in the emergency palliative setting across different tumour types was feasible and successful in these cases, the first managed in this way in our unit. Full discussion with the patient and multidisciplinary team ensure that there are realistic treatment goals. We feel that interventional radiology should be considered an important adjunct in the palliation of gynaecological malignancy.

P-79

## SERUM CA125 MARKER AS A SCREENING TOOL FOR OVARIAN CANCER - A 2 YEAR REVIEW

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**Background**
Ovarian cancer accounts for approximately 160 cases per year in Northern Ireland. Currently, there are no screening tools for ovarian cancer and serum CA125 is recommended as part of the initial investigative process for women with abdominal symptoms.

**Methods**
This was a review of all women who had an elevated CA125 less than 100 from January 1st 2012 to December 31st 2013. Records were reviewed to determine the causes of abnormal serum CA125 values. Secondary data was collected and analyzed using Excel to determine the rate of primary ovarian cancer and the reasons for elevated CA125.

**Results**
The rate of detection of primary ovarian cancer in this cohort of 1076 women was 3.5%. Benign gynaecological and chronic diseases accounted for 41.8% of the causes while no identifiable cause was found in 20%. Non gynaecological malignancies accounted for 17% of this cohort while persistent and recurrent ovarian cancer accounted for 18%.

**Conclusion**
This review has shown a low detection rate of primary ovarian cancer in women with an abnormal CA125 of less than 100. It may be necessary to change the referral pathways to reflect serial CA125 monitoring or use higher reference ranges prior to further investigations for ovarian cancer. This will be a more appropriate pathway to maximize detection of ovarian cancer while minimizing effects of false positives on these patients.

P-80

## REVIEW OF LUNG AND PLEURAL BIOPSIES RECEIVED IN A GYNECOLOGICAL PATHOLOGY DEPARTMENTOVER A 14-YEAR PERIOD

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**Aims:**
Review of pulmonary biopsies received by Birmingham Women's Hospital (BWH) to identify which gynaecological tumors most commonly metastasize to lung/pleura, and which may first present with pulmonary metastases.

**Methods:**
We reviewed all pulmonary biopsies over a 14-year period.

**Results:**
There were 25 lung and 9 pleural biopsies, from 33 patients. 21 patients had known gynaecological tumors (1 vulval, 1 cervical, 9 endometrial, 4 uterine mesenchymal and 6 ovarian). 18/21 biopsies had been referred from other hospitals; in 4 cases review lead to an altered diagnosis. 3/21 biopsies had been sent directly to BWH. The interval between primary diagnosis and pulmonary metastasis was known in 18/21 cases and ranged from 1-17 years. 9/21 (43%) had metastatic endometrial carcinoma; the FIGO stage was known in 7/8 cases: stage I in 5, and II and IIIA in the remaining 2 cases. Of the further 12 patients with no history of gynaecological malignancy, 4 had pleural metastases from ovarian carcinoma, 3 had primary lung carcinoma, 3 had carcinoma of unknown primary, 1 had endometrial stromal sarcoma and 1 with a suspected Müllerian tumor was lost to follow-up.

**Conclusions:**
Pulmonary metastasis can occur many years after a diagnosis of gynaecological neoplasia - usually endometrial carcinoma, even after initial presentation at low stage. It may also be the initial manifestation in some cases - particularly ovarian carcinoma with pleural involvement. Specialist review of lung and pleural biopsies is important to confirm the diagnosis and optimize patient management.

P-81

## SURVIVAL FROM OVARIAN CANCER BY MORPHOLOGICAL SUBTYPE: DATA ON 676,987 WOMEN IN 61 COUNTRIES

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**Background:**
International comparisons of ovarian cancer survival traditionally have analysed ovarian cancer as one homogenous group. However, ovarian cancer comprises several morphologically distinct subtypes. We explored the international variation in survival for each morphological subtype to understand differences in overall ovarian cancer survival.

**Methods**:
CONCORD-2 is the largest population-based study of global trends in cancer survival, including data on 676,987 women (aged 15-99) diagnosed with ovarian, fallopian tube, peritoneal and retroperitoneal cancer during 1995-2009 in 61 countries. Women were grouped into six morphological subtypes: Type 1, Type 2, germ cell, sex cord-stromal, other specific non-epithelial and non-specific morphology. Age-standardised 5-year net survival was estimated for each country, calendar period of diagnosis and morphological subtype.

**Results:**
Women diagnosed with Type 1 tumours had high 5-year, with the highest survival in Cuba (70.4%). Comparatively, the highest estimate of survival from Type 2 tumours was only 47.7% (Cuba). Survival from germ cell tumours was high compared to survival from Type 2 tumours, but varied widely between countries ranging from 35.5% in Cuba and Germany to over 95% in Israel, Switzerland and New Zealand. Women with sex-cord stromal tumours had the highest survival compared to other morphological subtypes, with over 95% surviving 5 years after diagnosis in Portugal (96.2%), Norway (96.0%), and Korea (95.8%). Survival for other specific non-epithelial tumours varied widely and ranged from only 20.8% in Puerto Rico to 69.6% in Cuba.

**Conclusion:**
These results show that the morphological subtype of ovarian cancer is important in understanding the differences in survival.

P-82

## UTERINE TUMOUR RESEMBLING OVARIAN SEX-CORD TUMOUR (UTROSCT) WITH A PARA-OVARIAN DEPOSIT- A CASE REPORT OF AN UNCOMMON ENTITY AND REVIEW OF THE LITERATURE

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*The Christie, Manchester, UK*

**Background:**
This is a rare tumour within the realms of gynaecological pathology and warrants documentation and reporting to better appreciate its presentation and behaviour.

**Case Description**:
A 66 year old presented with a one month history of postmenopausal bleeding. Hysteroscopic endometrial biopsy noted an inactive endometrium, however pelvic ultrasound found a discreet mass in the fundus of the uterus with maximal diameter of 7 cm. MR imaging commented that there was soft tissue enhancement within the mass suggestive of leiomyosarcomatous changes. A whole body CT noted no evidence of metastases. She underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy, a thorough laparotomy was undertaken and no macroscopic metastatic disease was identified.

Pathologically the report noted that the morphology, location and immunoprofile were compatible with a uterine tumour resembling ovarian sex cord tumour (UTROSCT), with a microscopic deposit of tumour in the right paraovarian/hilar tissue.

A post operative CT scan two weeks after the operation showed a soft tissue nodule close to the renal vessels of similar characteristics to the excised uterine mass and a further repeat CT T/A/P scan 8 weeks later has shown an increase in its size along with small pulmonary lesions consistent with metastases.

**Conclusion:**
The current literature describes less than 10 cases with metastatic activity, although this tumour is classified as low grade in this instance it has behaved in an aggressive manner. This tumour has appeared to metastasised early via both lymphatic and haematogenous routes.

P-83

## STAGE 4B SEROMUCINOUS BORDERLINE OVARIAN TUMOUR CASE REPORT AND REVIEW OF THE LITERATURE

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A 51 year old woman who initially presented with pulmonary embolism was found to have a pelvic mass, right haematosalpinx and a paracardiac mass. Her CA-125 was 1340 IU/L.
As the disease distribution was unusual an MDT decision was made to excise the paracardiac mass prior to consideration of a laparotomy; this was done uneventfully by the cardiothoracic surgeons. The initial diagnosis was metastatic adenocarcinoma with an immunohistochemical profile suggestive of a GI primary. Endoscopy was negative so a laparotomy was performed for the ovarian mass, this entailed total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, biopsies of peritoneum and diaphragm and ablation of remaining peritoneal abnormalities.

The histology revealed a cystic and papillary tumour in the left ovary. The right fallopian tube revealed focal endometriosis only. The omentum showed a single non-invasive epithelial implant. There were no implants or invasive malignancy at other sites. The morphology of the deposits in the paracardiac lymph node previously removed was compared to the ovarian neoplasm and as they appeared similar, the final diagnosis was of seromucinous borderline ovarian tumour with nodal involvement, FIGO stage 4B.

Seromucinous borderline tumours may be associated with both implants and nodal involvement and this is thought to be the first reported case at such an advanced stage. The patient is well with no signs of recurrence 6 months following surgery.

P-84

## MALIGNANT STRUMA OVARII WITH PULMONARY METASTASES: CLINICAL, RADIOLOGICAL, PATHOLOGICAL AND MOLECULAR CHARACTERISATION

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**Introduction**
Struma ovarii is an ovarian teratoma in which thyroid tissue predominates, comprising 3% of all ovarian teratomas. Only 5% of struma ovarii are malignant.

**Case Report**
A 45 year-old woman presented with lower abdominal pain and erratic vaginal bleeding. Initial ultrasound identified a large complex ovarian mass and multi-fibroid uterus. The CA-125 was 18. A CT of the chest, abdomen and pelvis demonstrated multiple suspicious pulmonary nodules.

Biopsy of the pelvic mass showed a few thyroid follicles and biopsy of a pulmonary nodule revealed metastatic papillary thyroid carcinoma. On immunohistochemistry, both the pelvic lesion and pulmonary nodule were CK19 positive and CD56 negative, establishing a diagnosis of malignant struma ovarii (papillary thyroid variant) with pulmonary metastases.

The patient was treated by total abdominal hysterectomy, bilateral salpingo-oophorectomy, total omentectomy, evaluation of pelvic and para-aortic lymph nodes and thyroidectomy from which a histological diagnosis of primary malignant struma ovarii (follicular variant of papillary carcinoma) was made. Molecular analysis of the tumour for mutations and translocations found in thyroid neoplasia was undertaken. The thyroid was radiologically and histologically normal.

Postoperatively she received radioiodine $I^{131}$ therapy for residual disease.

**Discussion**
The diagnosis of follicular variant of papillary thyroid carcinoma with pulmonary metastasis poses a challenge, especially in the context of struma ovarii. This case illustrates the diagnostic role of immunohistochemistry and adds to the literature on the molecular profile of these rare cases. While a range of treatment approaches have been described, radical surgery and $I^{131}$ is now considered standard first line therapy.

P-85

## CERVICAL INTRAEPITHELIAL NEOPLASIA AND SPONTANEOUS PRETERM BIRTH: GENOME WIDE ASSOCIATION STUDY (GWAS)

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**Background**
A minority of women infected with HPV develop CIN or cervical cancer, suggesting the presence of innate factors predisposing to tumor development. CIN has been associated with spontaneous preterm delivery (PTB), but the causal pathway remains unclear. We conducted a genome-wide association study to identify underlying genetic risk variants possibly predisposing to both outcomes.

**Methods**
Using nationwide Registers and Northern Finland Birth Cohort 1966 (NFBC66) we identified 365 women with CIN or cervical cancer and 1678 controls without a history of any cytological abnormalites. In the first stage we conducted genome wide analyses for CIN or cervical cancer. In the second stage we tested the SNPs considered at least suggestive for CIN or cervical cancer separately for PTB (119 cases and 1813 controls).

**Results**
We identified eleven SNPs (p<5x10E-8) associated with increased risk of CIN or cervical cancer. Two of the top variants were associated with three protein-coding genes at the same locus: PIBF1, BORA and MZT1 all with roles in mitotic cell division and/or cancer development. Among the 234 SNPs analysed in the second stage, two remained significant for PTB and were associated with protein coding sites: at SEPT8 (associated with cellular polarity and carcinogenesis) and one at CAPN1 (associated with human carcinogenesis and low birth weight in animal models).

**Interpretation**
We observed variants significantly associated with CIN or cervical cancer as well as loci suggesting a presence of shared genetic susceptibility to both outcomes in this cohort. These results are promising but require external replication for confirmation.

## P-86

## MALIGNANT STRUMA OVARII OR NOT?

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**Background**:
Struma ovarii defines the presence of >50% of thyroid tissue in the ovary and accounts for 1% of all ovarian tumours.

**Case summary**:
A 66 year old healthy woman with bladder symptoms was found to have a 13 cm predominantly cystic mass, ascites and a pleural effusion on CT. CA 125 was 1090, CEA and CA19-9 were normal.

Pleural cytology confirmed malignant mesothelial cells. An USS guided biopsy failed to retrieve tissue for histology.

Chemotherapy (Paclitaxel, Carboplatin and Bevacuzimab) for stage IV ovarian adenocarcinoma was commenced. After four cycles a biochemical response (CA125 fell to 432) and partial radiological response with an unchanged adnexal mass were noted. Subsequent interval debulking surgery (TAH, BSO, omentectomy) was performed.

Histology of the left ovary reported thyroid tissue and the diagnosis of malignant struma ovarii was made.

A subsequent PET CT showed a 7 mm thyroid nodule and the FNA reports follicular neoplasia, suggestive of an ovarian metastasis of thyroid cancer. The ENT oncologist will offer a thyroidectomy with postop radio-iodine which will help determine whether the final diagnosis will be of malignant struma ovarii or ovarian metastasis from thyroid cancer.

**Discussion:**
Both conditions, ovarian metastasis from thyroid cancer and struma ovarii are rare. Malignant struma ovarii has been described in literature with a few case reports only. The treatment consists of surgical resection and adjuvant radioiodine therapy with curative intent.

**Conclusion:**
The presented case demonstrates the importance of correct histological diagnosis to ensure targeted therapy for an optimal treatment outcome.

P-87

## GASTRIC-TYPE ADENOCARCINOMA OF THE CERVIX

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**Introduction:**
The majority of cervical carcinoma is HPV-related. Primary gastric-type adenocarcinoma of the cervix was recognised in the WHO classification in 2014 but remains uncommon. Diagnosis can be challenging, particularly differentiating a primary cervical lesion from a metastatic gastrointestinal tumour. We present two cases and summarise the histological appearances and management of this tumour.

**Cases:**
The first woman was 47 years old and presented with abnormal bleeding having had a negative routine smear 12 months ago. Histology and immunohistology from her LLETZ biopsy were consistent with gastric-type adenocarcinoma (adenoma malignum). Immunohistochemical studies were positive with CEA, CK7, MUC6 and PAX8 and negative for CK20, CDX2, ER, PR and p16. Pre-operative staging was 1b1 and she underwent laparoscopic radical hysterectomy. Histology confirmed the diagnosis and staging. The second patient was 54 years old and had a non-routine smear suggesting glandular neoplasia having had a negative smear 18 months previously. Her LLETZ biopsy suggested primary gastric-type mucinous adenocarcinoma of the cervix with positive staining for CEA, CDX2 and CA19.9 and negative for PAX8, CA125, ER, PR and p16. Her staging was also 1b1 pre-operatively and she underwent laparoscopic radical hysterectomy.

**Discussion:**
Gastric-type tumours of the cervix form a spectrum from well-differentiated adenoma malignum to gastric-type adenocarcinoma which is more poorly differentiated. In their recent immunohistochemical analysis study of cervical and vaginal gastric-type adenocarcinomas, Carleton et al demonstrated overlap with pancreaticobiliary adenocarcinomas but suggested PAX8 reactivity could be useful in distinguishing the two. Treatment is as for other cervical carcinomas however prognosis is generally poorer.

P-88

## NEUROENDOCRINOLOGICAL TUMOURS IN THE FEMALE GENITAL TRACT: OUTCOME PROPRTIONAL TO STAGE AND GRADE

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**Introduction:**
Neuroendocrine tumours can arise in the gastrointestinal tract, pancreas, lung and thymus. Gynaecological Neuroendocrine tumours (GNT) are rare. Prognosis is dependent on histologic subtype and site of origin.

**Method:**
This is retrospective study looking at outcome after treatment of GNT between January 2010 and December 2015 in Leeds Teaching Hospital. Leeds UK

**Results:**
11 cases were identified. 6 Cervical, 2 endometrial, 2 ovarian and 1 vaginal GNT. Of the cervical cancers 3 were small cell, 2 large cell type. Both the endometrial cancers were grade 3 and the ovarian tumours were well differentiated carcinoid and a grade 3 neuroendocrine carcinoma (NC). The vaginal cancer was a NC.

Three cervical cancers were stage 2b and above. The Endometrial cancers were stage 2 and 3c. The ovarian carcinoid was stage 1a and NC stage 2b. The vaginal NC was stage 2b.

In the early stage cervical cancers one had a LLETZ, one a radical hysterectomy and the third chemo-radiotherapy who died while others who had surgery are doing well. The advanced cervical cancers had chemo radiotherapy; two had liver metastases for which 1 had metastatectomy and other is considering trial drug and the third died.

Of the endometrial cancer one declined adjuvant treatment, but is currently asymtomatic and the other died. The ovarian carcinoid is asymptomatic. The ovarian NC received External beam radiotherapy developed bowel obstruction but is currently asymptomatic.

The vaginal NC following chemotherapy died after one year.

**Conclusion:**
The early stage well differentiated GNT have a better prognosis.

P-89

## DIAGNOSIS OF PRIMARY MALIGNANT MELANOMA OF THE UTERINE CERVIX

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Primary malignant melanoma ( MM) of the cervix is extremely rare. A search of the Pubmed from 1950 to 29 February 2016 revealed 96 reported cases, with the great majority of cases (79/96 or 82%) reported after 1990. The increasing trend of reported cases of cervical MM may, in part, be due to improved diagnostic accuracy with introduction of immunohistochemical biomarker staining. We present here a case of a 6-cm cervical tumour, FIGO stage-1b2, of poorly-differentiated squamous cell type on biopsy histology. Panels of immunohistochemical staining on radical hysterectomy specimen confirmed it to be a MM.

Microscopy of the tumour showed high-grade malignant cells with a prominent sarcomatoid spindled appearance, marked nuclear pleomorphism and hyperchromasia, with abundant mitotic figures (> 20/10 hpf). Cytoplasmic pigmentation was absent throughout the tumour. Ectocervical epithelium overlying the tumour showed intraepithelial involvement by tumour cells.

Immunohistochemical staining property:

(a) Primary Tumour:

Epithelial markers AE1/3, MNF116, 34BE12, CK14, CK5/6 and Cam 5.2, and desmin and SMA: Negative

Vimentin, p16 and S100: focal weak positive

SOX10: diffusely and intensely positive

p63 and EMA: weakly positive in some atypical spindled cells

(b) Intraepithelial/pagetoid component: some positive staining for HMB45 and melan-A

(c) One of the 45 pelvic lymph nodes showed aggregates of s stained positively for SOX10, p16, HMB45 and melan-A.

Conclusion: The use of immunohistochemical panels of tests will improve diagnosis and, may lead to an increase in reports of cervical MM cases in the future, including cases with microscopic nodal disease.

P-90

## COLPOSCOPY REFERRAL FOR WOMEN UNDER THE AGE OF 25 YEARS - UNNECESSARY OR ESSENTIAL?

*Michelle Godfrey, Daljit Kaur, Rashna Chenoy*

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**Aim:**
To evaluate the clinical and histological findings in women aged under 25 years referred to colposcopy services

**Method:**
Retrospective case note audit of women aged less than 25 years of age attending colposcopy, at a busy London district hospital from January 2008 until March 2015.

**Results**:
A total of 5192 women were referred to colposcopy during this period and 219 were aged between 17 and 24 years (4.2% of new referrals). The majority were referred with a non-urgent clinical indication (84.4%) and just over one third (34.7%) were referred with an abnormal screening result. Post coital bleeding was reported by 39.7% of the women. Of the women referred 52% had never had a smear test and 5% had high grade dyskaryosis on recent smear test. Overall 37.9% had no abnormality seen on colposcopy. Twenty women had colposcopy findings in keeping with high grade dysplasia. Smear tests were performed on 57 women (26%) and cervical biopsies were performed on 94 women (42.9%). Five women had 'see and treat' LLETZ excision. High grade dysplasia was reported on 31 biopsies (14.2%) and on four of the five LLETZ samples. Therefore, high grade dysplasia was present in 16% of the women under the age of 25 years.

**Conclusion:**
Women are offered their first smear test at age 25 years, however high grade dysplasia can occur before this age. In the presence of abnormal symptoms, a smear test and referral to colposcopy should be considered in women under the age of 25 years.

P-91

## SIMPLIFYING THE HISTOLOGICAL REPORTING OF PROGESTERONE TREATED ATYPICAL HYPERPLASIA AND ENDOMETRIOID CARCINOMA: IMPACT ON OUTCOME PREDICTION AND CLINICAL MANAGEMENT

*Mariaclelia La Russa[1], Asma Faruqi[2], Elly Brockbank[1], Arjun Jeyarajah[1], Alexandra Lawrence[1], Ranjit Manchanda[1], David Oram[1], Nicholas Heatley[2], Abdifatah Dheere[2], Naveena Singh[2]*

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**Background:**
Accurate and reproducible pathological assessment of response to progesterone treatment underpins protocols for conservative management of atypical endometrial hyperplasia (AH) and endometrioid endometrial carcinoma (EC). This assessment is hampered by the well recognized difficulties in evaluating response as progesterone itself at high doses produces cytological and architectural changes which influence the assessment of hyperplasia.

**Aim:**
To assess whether a simplified classification of response in progesterone-treated AH/EC in biopsies taken at different treatment durations offers the same prognostic information as a detailed classification.

**Methods:**
One-hundred-forty-eight biopsies from 37 patients of AH (n=29) and EC (n=8) were reviewed and classified by a traditional 6-tier system for reporting: complete response, Progestin-treated (PT) complex hyperplasia, PT complex AH, PT simple AH, PT EC, no treatment effect. These were also categorized by a simplified system into N1: complete response; N2: Partial response/persistent neoplastic changes and N3: No response. Treatment failure was defined as persistent AH or EC 12-24 months after the start of treatment. Fisher's exact test was applied to assess whether the categories within the two systems correlated significantly with outcome in biopsies <7 months and > 7 months after commencing treatment.

**Results:**
There was a significant difference in outcome between N1 and N2 ($p = 0.0001$). Stratification of N2 into different categories showed no significant correlation with outcome ($p=0.3322$).

**Conclusion**:
A simplified classification of progesterone-treated AH/EC offers the same prognostic information as a more detailed classification. This is likely to be more reproducible and offer a clearer message for clinical management.

P-92

## BIOPSY JUSTIFIED IN WOMEN WITH NORMAL COLPOSCOPY AND NORMAL OR LOW GRADE SQUAMOUS CYTOLOGICAL SMEAR ABNORMALITY? A PROSPECTIVE COHORT STUDY

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*Watford General hospital, UK*

**Background**
Since the incorporation of the high risk Human Papilloma Virus (HPV) test in the cervical screening programme, it is common to reassure and discharge women referred with a normal or borderline squamous abnormality where the colposcopy is normal. The consensus advice is not to biopsy this cohort.

**Aim**
To assess the prevalence of Cervical intraepithelial neoplasia (CIN) in this group of women.
To determine if biopsy is justified in this group of women?

**Methods**
We performed a cohort perspective study on women referred to the colposcopy clinics at St Albans City Hospital between 1st April 2013 and 31st March 2014. Only new referrals with normal, low grade squamous cytological abnormality were included. We recorded the referral smear, colposcopic findings, histology, and treatment if performed. Women with no smear or borderline Glandular smears were also excluded. Data was analysed using Microsoft Excel.

**Results**
There were 212 new patients who met the selection criterion. 23 had normal referral smears, 100 borderline, 89 had low grade abnormality. 106 (50%) smears were HPV high grade positive. 57 (26.8%) women had normal colposcopy. Of the women with normal colposcopy, 11(19.2%) had CIN. 4 (7.0%) had CIN2 or greater. There were no women with micro invasive cancer. Five women were excluded, four had no referral smears and one had a borderline glandular smear.

**Summary**
Based on our findings, women with normal or low grade squamous cervical abnormality and normal colposcopy a biopsy could be justified.

P-93

## DO OUTPATIENT HYSTEROSCOPIC FINDINGS OF SUSPICIOUS CANCER CORRELATE WITH FINAL HISTOLOGY?

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**OBJECTIVE:**
The aim of this study was to correlate between hysteroscopy findings of suspicious endometrial cavity for cancer and cancer in final histology. We also determined the risk of cancer when endometrial thickness (ET) was >4mm.

**METHODS:**
This was a Cross- sectional study of fifty (50) post-menopausal bleeding patients who were examined with outpatient hysteroscopy and endometrial biopsy (2014 - 2015). We determined the number of patients who were diagnosed with endometrial cancer by biopsy while the endometrial cavity was described as suspicious for cancer. We also determined the risk of endometrial cancer for these patients when the ET measures > 4 mm on ultrasound scan.

**RESULTS:**
From the fifty patients who were examined in our clinic, twenty one were diagnosed with endometrial cancer by the biopsy. The ET of the fifty patients was between 4.4mm and 36 mm (average ET- 14.5mm). For the twenty patients who were diagnosed with cancer, the endometrial thickness was between 4.4mm and 36mm (average ET-15.5mm). According to our findings in postmenopausal women with vaginal bleeding, the risk of cancer is approximately 42% if the endometrium is > 4 mm thick. Also women who had suspicious endometrial cavity during hysteroscopy, 42% had positive endometrial biopsy for endometrial cancer.

**CONCLUSIONS:**
The risk of cancer is 42% when the outpatient hysteroscopy findings suggest suspicious of cancer. In postmenopausal women with vaginal bleeding the endometrial thickness of > 4 mm on ultrasound, should be considered as the lowest threshold for biopsy as the risk of cancer is 42%.

P-94

## A RARE CASE OF PRIMARY VAGINAL SEROUS CARCINOMA

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A 30 year-old, nulliparous woman presented with intermittent vaginal discharge, bleeding and a vaginal lesion. She has no history of endometriosis or exposure to Diethylstilbestrol. Biopsy confirmed vaginal serous carcinoma, a rare histological subtype of vaginal cancer. The patient underwent ovarian stimulation and egg harvesting followed by 2 cycles of neoadjuvant chemotherapy with poor clinical and radiological response. Surgical cytoreduction involving resection of vaginal lesion and pelvic clearance was performed. Complete microscopic clearance with good margins was achieved. Patient did not receive further adjuvant treatment and remained in disease remission 18 months after her treatment.

The etiopathogenesis of this type of cancer is unknown. The immunohistochemistry profile was p53 null with no expression of WT1 or PL, Napsin stain positive and PAX8 positive suggestive of high grade serous carcinoma with clear cell component of Mullerian in origin (Stage 1A). We hypothesised that mullerian malignant transformation in possible metaplastic vaginal epithelium could explain this unusual occurrence.

Primary papillary serous carcinoma of the vagina has only been described in 2 case reports. We report here the management of this rare cancer at the Pan-Birmingham Gynaecological Cancer Centre.

P-95

## REVIEW OF 35 YEARS MANAGEMENT OF EXTRA MAMMARY PAGETS DISEASE IN A SINGLE CENTRE

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**OBJECTIVES:**
To review the management of cases of Extra mammary Paget's disease of vulva [EMPDV] in specialist vulval skin clinic.

**METHODS**:
Computerised database was searched to identify cases of EMPDV between 1980 to 2015 inclusive.We retrospectively reviewed case records and analysed data using Microsoft Excel.

**RESULTS:**
The mean age at presentation was 63 years . Most patients presented with itch and eczema like skin changes. The mean duration of symptoms was 14 months . After 2006 CT Scan of abdomen,pelvis and chest was sole Investigation used to exclude associated malignancy.

Surgery was mainstay of primary treatment (100%) . One patient had vulvectomy. 13 patients had local excision with 10 (77%) having primary closure and 3 (23%) needing reconstruction.Four surgical specimens had positive margins on histology.

Ten cases( 72 %) had recurrence. Of women with positive margins three (75 %) had recurrence within a year. With clear margins ,two (33%) recurred within 18 to 24 months while four (67%) recurred between three to ten years. Pre-surgical mapping biopsies (64%) were associated with delayed recurrence and clear margins. Extent of disease did not correlate with number of recurrences (range 1-6 times). First Recurrence was treated with surgery (100%).

Mean duration of followup was 6.5 years . At present n=5 ( 37%) are still under surveillance , 3 (21%) are disease free for > 5 years, 3 (21%) are lost to followup.Three patients in longer term developed another malignancy.

**CONCLUSIONS:**
EMPVD is uncommon and difficult to treat .Surgery is mainstay of treatment.Longterm followup is essential.

P-96

## WHAT IS THE IMPACT OF PATIENT AGE ON CLINICAL DECISION MAKING, TREATMENT TOLERANCE AND OUTCOMES FOR GYNAECOLOGICAL CANCER PATIENTS?

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**Background:**
Amidst an ageing population there is a need to further understand how elderly patients tolerate gynaecological cancer treatments. A recent DoH review indicated that, although clinicians felt they did not change treatments based on age, this happened in practice.

**Objectives:**
To review treatment decision and treatment tolerability in women aged >70 referred to a non-surgical tertiary cancer centre.

**Methods:**
Retrospective cohort study of electronic case records of gynaecological cancer patients aged >70 years at Velindre Cancer Centre from 2007-12. Data were collected on treatment decisions, toxicity and outcomes. Medical records of patients aged over 80 were also reviewed for documentation of comorbidities, drug history and WHO performance status.

**Results**:
Of 420 patients, 360 were included for analysis (reasons for exclusion: patients died; were too unwell; declined treatment; incomplete notes; no cancer). Of 360 patients, 59.2% had endometrial cancer, 19.7% ovarian, 13.9% cervical, 5.3% vulval, 1.9% vaginal. 35.3% of patients were aged >80 years. 93.6% of patients completed the planned treatment. 8.3% were hospitalised during treatment; 4.7% stopped treatment prematurely; 1.7% died on treatment. Toxicities were generally low frequency, except a 19.7% transfusion rate in ovarian cancer patients. Around 90% had reasons for treatment decisions clearly documented. Only 4 patients (1.1%) had age stated as a factor in decision making. Five year survival of ovarian cancer patients was 49%. Comorbidities and drug history were well documented, although WHO performance status was only recorded in 33% of patients.

**Conclusion:**
Older patients with gynaecological cancer generally tolerate treatment well with manageable toxicities.

P-97

## PATIENT-CENTRED FOLLOW-UP OF EARLY STAGE ENDOMETRIAL CANCER

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**Introduction**
It is still common practice to follow-up patients treated for early-stage endometrial cancer clinically for several years following surgery and with controversy still existing on how often these patients should be seen and for how long, it is important to evaluate the overall survival benefit of clinical or patient-centred follow-up after curative surgery for endometrial cancer.

**Aims**
The aim of this study was to examine the outcome of patients treated for early stage endometrial cancer and followed up in the outpatient gynaecological oncology clinics.

**Materials and methods**
This was a retrospective study of patients diagnosed with stage 1, grades 1 and 2 endometrial cancer from 2008 to 2013. The patients subsequently underwent hysterectomy as definitive treatment. They were followed-up in the outpatient clinics to detect recurrence with consultation and clinical examination. Further investigations were done if required.

**Results**
One hundred and seventy-three women underwent treatment for early-stage endometrial cancers and three patients had recurrence of this cancer. The patients reported these recurrences on consultation. Two patients reported abnormal vaginal bleeding and the third reported persistent abdominal pain.

**Discussion**
The recurrence rate of early-stage endometrial cancer was 1.7% and because the recurrences were patient reported, we believe that a patient-centred follow-up will further improve patients' experience and outcome following surgical treatment for early stage endometrial cancer. This can be an acceptable and cost-effective alternative to conventional outpatient clinic follow-up. Another practical alternative is nurse-led telephone follow-up, however a well-conducted research study is required before comparison with conventional outpatient clinic follow-up.

P-98

## LEARNING DISABILITIES AND GYNAECOLOGICAL CANCER: RECOMMENDATIONS FOR ACCESSING CARE AND TREATMENT

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The number of patients with learning disabilities (LD) is increasing, as is the number of patients with cancer. Late presentation of patients with LD and cancer is increasing because of delays in picking up early signs, and the challenges to services of caring for patients with LD who have difficulty accessing or engaging in diagnostic and treatment aspects of health care. Their health outcomes may be lower than those who do not have learning disabilities.

In women with LD and gynaecological cancer, reasonable adjustments are necessary under the Equalities Act to assist them to achieve the same health outcomes as patients without a disability. Adapting communication, 'easy read' information, double appointment times, environmental considerations, and involving parents and carers as 'partners' in care is important. The Hospital passport is critical to convey important information about the person.

Liaison with learning disabilities nurses, family members/significant others and members of the MDT is critical for decision making and care planning, especially where a serious treatment or admission is required.

Under the Mental Capacity Act nearly all women with LD will require a mental capacity assessment regarding treatment. If found not to have capacity to consent, a " best interests" decision is made with involvement of family, and IMCA if appropriate. A Deprivation of Liberty Safeguard application (DOLS) may be required before admission.

Women with LD require much support to assist them to engage in care which involves reasonable adjustments, MDT care-planning, use of hospital passport and adherence with current legislation.

P-99

## PLACE OF DEATH OF PATIENTS WITH PELVIC CANCER TREATED AND CARED IN A TERTIARY CENTRE CATCHMENT AREA (3 COUNTY CANCER NETWORK SERVICES)

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**Background**:
Place of death has been used as a Key Performance Indicator (KPI) in England since 2011. Up to 70 % of people prefer to die at home. 29% of all deaths have an underlying cause of cancer (England, 2014). 18.6% of all cancer deaths are from pelvic cancer (5% of all deaths, underlying selected gynaecological, urological and colorectal causes).

**Aim:**
To investigate changes in place of death for people who die with an underlying cause of pelvic cancer in the three county cancer network areas(3 CCNS, Gloucestershire, Herefordshire & South Worcestershire) between 2004 and 2013.

**Method:**
A population-based study using data extracted from Office of National Statistics (ONS) mortality database, restricted to residents of 3CCNS area, from January 2004 to December 2013. ICD code version 10 was used to identify patients. Place of death was coded as hospital, Usual Place of Residence (UPR-home/care home), hospice and other places.

**Result:**
Hospital deaths fell by 13.8%, while UPR and hospice deaths rose by 12% & 0.7% respectively in Gloucestershire. In Herefordshire, hospital and hospice deaths fell by 4.5% and 6.8% respectively with a rise of 10.3% in UPR deaths. In Worcestershire the hospital deaths fell by 13.6%, and hospice deaths rose by 12.5% with a minimal rise in UPR deaths (1.1%).

**Conclusion:**
Hospital deaths across the 3 CCNS fell by 13%.The fall in deaths in UPR in Worcestershire County is compensated by rise in hospice death. This pattern is unusual.

P-100

## CONSERVATIVE TREATMENT FOR FERTILITY SPARING IN YOUNG WOMEN WITH ENDOMETRIAL CANCER AND ATYPICAL HYPERPLASIA. RESULTS FROM A PROSPECTIVE SINGLE CENTRE STUDY

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**Background:**
Conservative management (CM) of atypical endometrial hyperplasia (AEH) and early stage endometrial cancer (EC) with oral progestins has been reported with excellent results in terms of both regressions of disease and fertility outcomes. The aim of this study was to report results of CM for fertility sparing in a tertiary Gynaecological Oncology centre.

**Methods:**
All women with AEH and early stage EC managed conservatively between January 2013 and January 2016 were included in the study. Patients' characteristics and histopathology were prospectively collected. Dilatation and curettage was used in all cases. MRI scans were performed in all women diagnosed with EC. Patients were treated with oral progestogen (MPA 400mgBD) and/or LNG-IUD. Progression, persistence, partial response and complete response were defined.

**Results:**
Twenty-four patients were treated conservatively during the period of the study (10 EC, 14 AEH). Thirteen patients achieved complete response (5 EC, 8 AEH) allowing fertility treatment to commence. Four women had partial response (from EC to AEH) and 4 had persistent disease (1 EC, 3 AEH), and they are currently on treatment. No patient experienced progression. Median treatment duration for achieving complete response was 7 months (range 4-14 months).

**Conclusion:**
Combined oral and local progestogen treatment seems to be effective in the management of AEH and early stage EC. It may be used for women wishing to preserve their fertility, but further studies are warranted to ascertain its oncologic safety.

P-101

## ENYGO (EUROPEAN NETWORKING YOUNG GYNECOLOGICAL ONCOLOGIST) SURVEY ON THE CONSERVATIVE MANAGEMENT OF EARLY STAGE IN ENDOMETRIAL CANCER

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**OBJECTIVE:**
The objective was to evaluate conservative management (CM) of early stage endometrial cancer for fertility sparing across Europe.

**METHODS:**
A web-based anonymous survey was sent to all ENYGO(European networking young gynecological oncologist) members in July 2015. The questionnaire included basic socio-demographic information and details regarding investigations, management and follow up. Trainees and ENYGO members filled a specially developed 38-item questionnaire covering different aspects of CM of EC in patients who are keen to preserve their fertility.

**RESULTS:**
Out of 650 survey invitations sent, 116 individuals responded (17.84%).

Before starting CM, the majority of units perform hysteroscopy with endometrial biopsy (56.14%) and request magnetic resonance imaging(MRI) (73.68%).

The CM has been offered mainly (92.92%,) in women with well-differentiated tumour confined to the endometrium only.

The most diffuse modality of treatment is oral progestin (48.67%) followed by oral with combined intrauterine device(IUD) (37.12%) progesterone. Once treatment has started, the majority of the centres (71.3%) perform resampling of endometrial cavity in 3 months, and the favorite modality is hysteroscopy and biopsy (58.33%).

If after the first biopsy only partial response has achieved, the majority (72.90%) continue treatment with progestin and perform second biopsy after 3 month.

Almost in all units (95.37%), clinicians offer hysterectomy after family completed.

**CONCLUSIONS:**
The benefit in treating conservatively young ladies affected by EC is well recognised across Europe. ESGO task force for fertility preservation has recently published clinical recommendations for fertility-sparing management in young endometrial cancer patients, which aim to achieve homogeneity in the management across Europe.

## P-102

## CERVICAL CANCER: A TALE OF TWO CITIES

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**OBJECTIVE:**
Comparison of cervical cancer incidence, FIGO stage, age and five year survival in Aberdeen, Scotland compared to Cape Town, South Africa.

**METHODS:**
Data for women presenting to Aberdeen Royal Infirmary with invasive cervical carcinoma between 1/1/08 and 31/12/09 was collected from previously carried out audits. Data for women presenting to Groote Schuur Hospital, was manually extracted from patient notes and a computer database. Raw data was then inserted into a Microsoft Excel® spreadsheet for analysis.

**RESULTS:**
Incidence per 100,000 population/year in GSH was 7.66 compared with 4.07 in ARI. The mean age at diagnosis in ARI was similar to that in GSH, at 49.7 years and 50.7 years respectively. In both hospitals the peak age at diagnosis was between 40-49 years. 62% of patients in ARI were diagnosed with early stage disease compared with only 21% of patients in GSH. The most commonly diagnosed stage in GSH was FIGO stage III, whereas in ARI it was stage I. The 5 year survival in ARI was 72% overall, in GSH it was just 31%. The outcome was superior for each FIGO stage in ARI when compared to GSH.

**CONCLUSION:**
The results demonstrate a significant difference in the presentation of cervical carcinoma in Aberdeen compared to Cape Town, largely reflecting the benefits of a national cervical screening programme, as is implemented in Aberdeen. Cervical carcinoma continues to be a prevalent disease in Cape Town, presenting at an advanced stage where treatment is often unsuccessful leading to poorer outcomes and higher mortality

## P-103

## SOCQER-2: CLINICAL CHARACTERISTICS OF FIRST 100 PATIENTS RECRUITED

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**Background:**
The SOCQER-2 (Surgery in Ovarian Cancer: Quality of Life Evaluation Research) study is currently recruiting patients with suspected advanced ovarian cancer to examine the patient reported outcomes (PROs) following surgery at 12 sites across the United Kingdom and Melbourne, Australia. The study also evaluates the related postoperative morbidity and progression free survival.

**Objective:**
To describe the characteristics and postoperative outcomes of first 100 UK patients recruited in the study (The poster will be updated for surgical outcomes of first 100 patients).

**Methods:**
Exploratory prospective multicentre observational cohort study. Baseline data on quality of life is recorded prior to the surgery using validated tools (EORTC QLQ OV28, OV30, subscales of colorectal CR29, urinary PR25 and EQ-5D-5L). PROs will then be documented at 6 weeks, 6 months, 12 months, 18 months and 24 months post-surgery.

**Results:**
The mean age of the first 100 patients recruited is 60.8 years. 26(65%) patients are FIGO stage-3 and 10(25%) are FIGO stage-4. 70 patients were scheduled for neoadjuvant chemotherapy followed by surgery. The most common reasons were: tumour load, massive ascites and stage-4 disease in 29(41%), 19(27%) and 18(26%) patients respectively.

22(31%) patients underwent primary cytoreduction surgery and 50(69%) patients have had surgery following chemotherapy to date. 29(46%) patients had a surgical complexity score of ≥4. Complete cytoreduction was achieved in 51(72%) patients and was optimal in 15(21%). 9(23%) patients had ≥Grade-2 complications (Clavien-Dindo classification) to date.

**Conclusions:**
The clinical characteristics of the first 100 patients and surgical procedures are described for SOCQER-2 study.

P-104

## BILATERAL INTERNAL PUDENDAL ARTERY ANGIOGRAPHIC EMBOLIZATION OF LABIAL METASTASIS FROM GESTATIONAL TROPHOBLASTIC NEOPLASIA

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Patients with Gestational Trophoblastic Neoplasia commonly experience bleeding from metastatic sites in the vulvovaginal area. Digital pressure and early institution of chemotherapy usually achieve control of the hemorrhage, but massive hemorrhage ensues in some cases. This paper documents the case of a 48 year-old Gravida8 Para7 (7017) who previously underwent total hysterectomy for endometrial mass. On histopathologic examination, it was diagnosed as Choriocarcinoma. Patient was then advised multiagent chemotherapy indicated for high-risk metastatic gestational trophoblastic neoplasia. Chemotherapy was discontinued due to intermittent, profuse, vaginal bleeding that rendered the patient anemic, a contraindication to starting another cycle of chemotherapy. Despite direct pressure on the vulvar mass, the bleeding became intractable, rendering the patient hypotensive and hooked on ionotropes for hemodynamic stability. The only option remaining for the patient was emergency embolization. This paper documents the first embolization to be done in the Philippines for labial metastasis from gestational trophoblastic neoplasia.

P-105

## IMAGE-GUIDED BRACHYTHERAPY USING COMPUTED TOMOGRAPHY FOR CERVIX CANCER PULSED DOSE RATE BRACHYTHERAPY - DOSE VOLUME PARAMETERS AND CLINICAL OUTCOME - SHEFFIELD EXPERIENCE

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**Introduction:**
We evaluated the Pulsed Dose Rate (PDR) brachytherapy plans and report on the dose-volume parameters and clinical outcomes of 43 cervix patients treated over 19-months in Sheffield after introduction of Computed Tomography (CT) - Image guided brachytherapy (IGBT) planning.

**Methods:**
Plans of 43 patients treated with PDR brachytherapy using CT-IGBT were reviewed. The dose volume parameters were retrospectively analysed and correlated with their clinical outcomes.

**Results:**
43 patients (aged 24-84 years) were treated from April 2012 to Oct 2013 with CT-Image guided standard prescription point-A brachytherapy for cancer of the cervix. (FIGO stage 1B1 to stage 4A, ± lymph node involvement). The median High Risk Clinical Target Volume (HR CTV) was 23cm$^3$ (min 5cm$^3$, max 194.5cm$^3$). The mean prescribed total point A EQD2 dose was 71.1Gy ($SD_1$ = ± 5.88) and mean HR CTV D90 EQD2 dose was 73.2Gy ($SD_1$ = ±15.4) The 1 and 2-year overall survival probability was 81.4%, 70% respectively. 20% (n=9) experienced local recurrence of their disease. Aarhus University Hospital, Denmark, who used MRI IGBT and higher prescribed doses reported an 8% local recurrence rate. Our overall survival probability figures are comparable to their earlier x-ray-based point A prescribed treatments

**Conclusion:**
Our higher local recurrence rates are a reflection of the lower doses delivered to the HR CTV. We are developing MRI planning and optimisation of plans in order to escalate our brachytherapy doses and improve local control whilst evaluating clinical outcomes.

## P-106

# AUDIT OF OUTCOMES OF CONCURRENT CHEMORADIATION AND IMAGE-GUIDED BRACHYTHERAPY IN THE MANAGEMENT OF LOCALLY ADVANCED CARCINOMA OF THE CERVIX AT ROYAL DEVON & EXETER HOSPITAL

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**Background**
Pelvic external beam radiotherapy (EBRT) with concurrent chemotherapy followed by intrauterine brachytherapy (BT) is internationally accepted as standard treatment for locally advanced carcinoma of the cervix. MRI-based 3D image-guided brachytherapy (IGBT) with dose escalation was introduced in Exeter in 2011 based on RCR[1] and GEC-ESTRO[2,3] guidance. We audited our outcomes before and after this change in practice.

**Treatment protocol**
Pelvic EBRT 45-50.4Gy in 1.8Gy daily fractions with concurrent weekly cisplatin 40mg/m2 followed by BT to a total dose (EQD2 to HRCTV D90) of >75Gy. Aim for mean EQD2 to HRCTV D90 >85Gy.

**Methodology**
Details of all patients treated with radical intent for locally advanced carcinoma of the cervix in Exeter collected prospectively using departmental database. Outcome data including overall survival, disease specific survival, pelvic recurrence and grade 3-4 bladder/bowel toxicity (as per CTCAE v4.0) collected retrospectively using patient clinical records for audit periods 2000-2005 and 2011-2014 and compared to published international series[4,5,6].

**Results**
Patient and tumour characteristics similar for 2000-2005 (64 patients) and 2011-2014 (74 patients).

1st audit: Mean dose (EQD2 to Point A) 74Gy. Overall survival 44%, disease specific survival 55%, pelvic recurrence 26%, G3-4 toxicity 11%.

2nd audit: Mean dose (HRCTV D90) 89Gy (80% received >75Gy). Overall survival 79%, disease specific survival 71%, pelvic recurrence 2%, G3-4 toxicity 12% (minimum follow up 12 months).

**Conclusion**
Introduction of MRI-based IGBT with dose escalation resulted in 24% reduction in local recurrence and improved survival without increase in G3-4 toxicity. Outcomes in line with published international series[4,5,6].

P-107

## IMAGE GUIDED ADAPTIVE BRACHYTHERAPY FOR TREATMENT OF LOCALLY ADVANCED CERVICAL CANCER. IMPLEMENTATION AND RESULTS FROM A SMALL CENTRE

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**Background**
Brachytherapy (BRT) following external beam radiotherapy (EBRT) is vital for curative treatment of locally advanced cervical cancer. Recommended best practise is image guided adaptive brachytherapy (IGABT) with a minimum dose of 85 Gy. This can be challenging for large tumours. It has been suggested that IGABT is only possible in a large centre. We present our results for IGABT.

**Methods**
Following EBRT 45-50.4 Gy in 25-28 daily fractions, patients underwent 2 BRT insertions a week apart using intrauterine tube with ovoids or ring+/-needles. BRT applicator insertion was performed jointly with gynaecological oncologist with ultrasound guidance. MRI-CT fusion was used for planning all BRT treatments.

**Results**
Between October 2014 and February 2016, we have treated 21 patients with highly conformal dosimetry prescribing to the high risk clinical tumour volume (HR-CTV). There were no patients where we failed to treat with BRT. Five patients required interstitial needles. All patients had improved dose conformity to the HR-CTV thereby allowing dose escalation without exceeding dose limits of organs at risk. In three interstitial patients the dose to critical normal tissues was actually lower.

**Conclusion**
We show that it is possible to safely implement IGABT in a small centre with close multidisciplinary working. The ability to individualise BRT with interstitial needles particularly for larger tumours improves dose distribution and allows dose escalation without exceeding the dose limits for the adjacent organs at risk. This allows better local control and minimises long term severe side effects.

P-108

## OUTCOMES IN LOCALLY ADVANCED VULVAR CANCER, TREATED WITH EXTERNAL BEAM RADIOTHERAPY (EBRT) AND HIGH-DOSE-RATE INTERSTITIAL IMPLANT; EXPERIENCE FROM BEATSON WEST OF SCOTLAND CANCER CENTRE

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**Introduction:**
Non-surgical management of advanced Vulvar cancer includes neo-adjuvant chemotherapy, external beam radiotherapy and some form of boost, either in the form of an interstitial implant or EBRT boost with either electrons or photons. We describe our experience over the last 5 years.

**Materials and Methods:**
We reviewed our database from 2010-15 and identified 20 patients who were treated as above.

**Results:**
Median age is 72 years (range 38-90), 50% of patients were stage III. Two- thirds of the patients received neo-adjuvant chemotherapy, median number of cycles was 3 (range1-6), most used regimen was Cisplatin and Capecitabine. Overall response rate was 86%.

Dose of EBRT was equally split between 45Gy/25# and 50Gy/25#, 35% patients had concomitant chemotherapy, 90% received an implant dose of 15Gy/3# and the remaining 10% received 18 Gy/3#.

At the end of all treatment we documented a complete response rate of 75%. Grade 3-4 skin toxicity beyond 6 weeks of completion of radiotherapy was 20%.

Half of the patients are alive and disease free with a minimum follow-up of 1 year. Of those who relapsed, 55% had metastatic disease at relapse.

**Conclusion:**
Treatment is well tolerated with a high CR rate. Most patients had metastatic disease at relapse; routine imaging is currently not undertaken for staging of vulvar cancer. Given the pattern of relapse, imaging to check for metastases prior to treatment should be undertaken.

P-109

## VOLUMETRIC ANALYSIS OF RADIOTHERAPY PLANS WITH INTERNAL TARGET VOLUME (ITV) APPROACH IN RADICAL CERVICAL CANCER TREATMENT USING INTENSITY MODULATED RADIOTHERAPY (IMRT) TECHNIQUE

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**Introduction:**
Inter-fraction target movements from variable bladder filling during radical radiotherapy to cervix might result in a geographical miss of the planning target volume (PTV). RTOG[1] recommends the use of internal target volume (ITV) to minimise this. We aim to quantify PTV coverage and irradiated normal tissue volume with ITV approach in this retrospective review of scans from 'plan of the day' technique.

**Methods:**
Radiotherapy plans of patients with cervical cancer intended to be treated with a 'plan of the day' technique using daily cone beam CT scans to select from 2 available plans delineated on empty and full bladder scans were included. An ITV was created retrospectively by combining the CTV from empty and full bladder scans. ITV plan was compared with the treated plan.

**Results:**
6 patients treated between January 2015- 2016 met the inclusion criteria. PTV(ITV) volume was larger, mean 147cc( 77cc-193cc), than PTV(treated) in all 6 cases. Mean V30Gy, V40Gy and V45Gy was 97%, 85% and 40% respectively for ITV bladder and 95%, 73% and 32% for treated bladder. On an average 17% more bladder volume was within 95% isodose for ITV plan compared to the standard plan. The differences in dose-volume parameters were negligible for bowel, rectum, femora and kidneys.

**Conclusion:**
The ITV approach treated greater bladder volume without compromising other organs at risk. On the other hand, this concept is likely to ensure more reliable target coverage, thus improving tumour control probability and possibly therapeutic ratio.

1. Lim et al. International Journal of Radiation Oncology, February 2011;79:348-355

## P-111

# PD-1 BLOCKADE ENHANCES SYNERGISTIC KILLING OF OVARIAN TUMOUR CELLS BY COMBINATION CHEMOTHERAPY AND T CELL IMMUNOTHERAPY

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**Introduction**
Ovarian cancer remains the most lethal of all gynaecological malignancies and there is a need for more personalised and targeted therapies. The programmed death (PD) pathway has been implicated in immune evasion by tumour cells. The receptor, PD-1, located on immune cells ligates with PD-L1 on tumour cells, leading to downstream inhibition of T-cell activity. The aim of this work was to enhance T cell killing of tumour cells by blocking PD-1 activation on ErBb-targeting chimeric antigen receptor (CAR) T cells (T4s).

**Methods**
Various ovarian cancer cell lines were treated with low dose Paclitaxel (0-20 nM) or Carboplatin (0-100 μM) for 48 hours followed by the addition of T4 cells which had been pre-treated with human IgG4 anti-PD-1 antibody (Nivolumab, Bristol-Myers-Squibb, USA) for a further 24 hours. Cell viability and T cell activity were quantified by MTT assay and ELISA, respectively.

**Results**
Treating tumour cells with anti-PD-1 antibody alone had no effect of tumour cell death compared with no treatment. Dose-dependent killing was seen following single agent treatment using Paclitaxel, Carboplatin or T4 cells. Combinational treatment using low dose chemotherapy and T4 cells had a synergistic killing effect in various ovarian cancer cell lines. This was enhanced by PD-1 blockade, increasing T cell IFN-γ production.

**Conclusion**
We have successfully shown that low dose chemotherapy can sensitise SKOV-3-luc tumour cells to killing by T4 cells. This effect may be further enhanced by pre-treating the T cells with a monoclonal anti-PD-1 antibody, increasing T cell activity and tumour killing.

P-113

## OLAPARIB FOR MAINTENANCE THERAPY IN PLATINUM SENSITIVE OVARIAN CANCER: EXPERIENCE FROM A COMPASSIONATE ACCESS PROGRAMME

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**Background:**
In January 2016 the PARP -1 inhibitor olaparib gained NICE approval for the maintenance treatment of BRCA positive women with platinum sensitive relapsed Ovarian Cancer. We present the experience of using olaparib within Astra Zeneca's Compassionate Access Programme.

**Subjects and Method:**
We report on six patients (median age 51, range 32-62) with a platinum sensitive ovarian cancer who had received olaparib after 2nd (n=5) or 3rd line chemotherapy (n=1). Monitoring followed a regimen of 4-weekly clinic reviews, CA-125 monitoring, and 3-monthly staging CT scans. Serological progression was defined as an increase 2x upper limit of response range[2].

**Results:**
Median follow up was 52 weeks (20-62weeks). To date four patients have shown no evidence of disease progression (20-53 weeks). One patient had serological progression at 62 weeks and one patient had both serological and radiological progression at 24 weeks. The side-effect profile was consistent with previous trials with grade 1 fatigue (n=5) and nausea (n=5) being the most common[1]. One patient suffered a grade 2 eczematous rash on elbows, feet and hands; which has not been previously reported.

**Conclusions:**
In our series, olaparib was a well-tolerated drug and 4 patients remain in ongoing complete remission.

*1. Ledermann - et al. Olaparib Maintenance Therapy in Patients With Platinum-Sensitive Relapsed Serous Ovarian Cancer. Obstetrical & Gynecological Survey. 2014;69(10):594-596.*

*2. Rustin G et al. Definitions for Response and Progression in Ovarian Cancer Clinical Trials Incorporating RECIST 1.1 and CA 125 Agreed by the Gynecological Cancer Intergroup (GCIG). International Journal of Gynecological Cancer. 2011;21(2):419-423.*

# AUTHOR INDEX

| | |
|---|---|
| CRUICKSHANK, MARGARET | P-95, P-102 |
| CUMMINS, CAROLE | P-103 |
| DALAL, NEHA | P-59 |
| DARZI, ARA | P-60 |
| DATTA, MEGHNA | P-8, P-82 |
| DAVENPORT, CLARE | O-9, P-47, P-53, P-75 |
| DAVIES, KATIE | P-96 |
| DAYAL, SANJEEV | P-15 |
| DEEKS, JONATHAN | O-9, P-47, P-53, P-75 |
| DELCHAR, LOIS | P-93 |
| DENNY, LYNETTE | P-102 |
| DEO, NANDITA | P-58 |
| DESAI, SUDHA | P-82 |
| DHEERE, ABDIFATAH | P-91 |
| DI CARLO, VERONICA | P-81 |
| DILLEY, JAMES | P-60 |
| DOBBS, STEPHEN | P-35, P-36, P-54, P-79 |
| DOUFEKAS, KOSTAS | P-33 |
| DRAKE, ALASDAIR | P-46 |
| DUNCAN, TJ | P-71 |
| EARWAKER, PHILIP | P-113 |
| EDMONDSON, RICHARD | P-3A , O-6, P-18 |
| ELATTAR, AHMED | P-31, O-2, P-65, P-66, P-67, P-68, P-69, P-70 |
| EL-BAHRAWY, MONA | O-4 |
| ELIAS, SARA | P-28 |
| ELLIS, P | O-1, O-5 |
| ELSTOB, ALISON | P-38 |
| FAIRBROTHER, KRISTINA | P-17 |
| FARES, RAMI | P-70 |
| FARUQI, ASMA | P-58, P-83, P-91, P-100 |
| FEARFIELD, LOUISE | P-37 |
| FEGAN, SCOTT | P-6 |
| FERNANDES, ANDREIA | P-38 |
| FERRARI, FEDERICO | P-21 |
| FISHER, ANN | P-22, P-56, P-77 |
| FITZGERALD, HELEN | P-3 |
| FLEMING, S | P-99 |
| FLYNN, MARINA | P-23 |
| FOLEY, NATALIE | P-109 |

| | |
|---|---|
| LUDEMAN, LINMARIE | P-74 |
| LUESLEY, DAVID | P-62 |
| LYKOUDIS, PAVLOS | P-23 |
| MACDONALD, MADELEINE | P-7, P-24 |
| MACDONALD, NICOLA | P-33 |
| MACNAB, WENDY | P-13, P-44 |
| MADHURI, TK | O-1, O-5, P-13 |
| MAGUIRE, PATRICK J | P-40 |
| MAHER, JOHN | P-1, P-111 |
| MALLET, SUE | O-9, P-47, P-53, P-75 |
| MANCHANDA, RANJIT | O-7, P-32, P-33, P-58, P-91, P-100 |
| MANEK, SANJIV | P-21 |
| MANNION, CATHY | P-107 |
| MAPLETHORPE, RICHARD | P-58 |
| MARIAPPAN, PARAM | P-6 |
| MARRIOTT, NATALIE | P-62 |
| MARTIN-HIRSCH, PIERRE | P-30 |
| MARTIN, JACKIE | P-105, P-109 |
| MATZ, MELISSA | P-81 |
| MAYER, ERIK | P-60 |
| MCAVOY, AARON | P-54 |
| MCCLEAN, RACHEL | P-29 |
| MCCLELLAND, RAYMOND | P-79 |
| MCCOMISKEY, MARK | P-13 |
| MCCORMACK, MARY | P-33 |
| MCGRADE, FIONNUALA | P-76 |
| MCGRANE, JOHN | P-106 |
| MCKENZIE, JAMES S | O-4 |
| MCMULLEN, WENDY | P-29, P-78 |
| MCRIS, VASILIS | P-93 |
| MCROBBIE, SARAH | P-4 |
| MEHASSEB, MOHAMED | P-44 |
| MEHRA, G | P-57 |
| MEHTA, AKASH | P-15 |
| MELSON, L | P-61 |
| MENON, USHA | O-7 |
| MILESHKIN, LINDA | P-3A |
| MITRA, ANITA | P-33, P-85 |
| MOHAMED, FAHEEZ | P-15 |

| | |
|---|---|
| RUDGE, GAVIN | P-103 |
| RUNDLE, STUART | P-22 |
| RZYSKA, EWELINA | P-14, P-25, P-26 |
| SADOZYE, AZMAT | P-108 |
| SAHA, RAJ | P-59 |
| SAMBANDAN, NIKOLA | P-39 |
| SANGANALMATH, PRASHANTH | P-109 |
| SANGEETA, MANTOO | P-89 |
| SANUSI, F | P-92 |
| SARAVANAMUTHU, JAMNA | P-58 |
| SASO, SRDJAN | P-12 |
| SAWAN, SALADIN | P-15 |
| SAYASNEH, A | P-57 |
| SAYASNEH, AHMAD | P-41 |
| SCURRY, JAMES | P-3A |
| SENGUPTA, PARTHA | P-27 |
| SHAHID, ANUPAMA | P-58 |
| SHAKED-MISHAN, PNINIT | O-2 |
| SHANBHAG, SMRUTA | P-44 |
| SHARMA, AARTI | P-11, P-14, P-25, P-26, P-28 |
| SHARMA, VIJAY | P-84 |
| SHAUNAK, RADHA | P-33 |
| SHEARD, VICKY | O-6 |
| SHEEHAN, LISA | P-15 |
| SHEIKH, ARFAN | P-51 |
| SHENOY, MANOJ | P-17 |
| SHORE, ANGELA C | P-74 |
| SIEGLER, EFRAIM | O-2, P-50 |
| SINGH, KAVITA | O-8, P-19, O-2, P-65, P-66, P-67, P-68, P-69, P-94 |
| SINGH, NAVEENA | P-100, P-58, P-83, P-91 |
| SINHA, ANJU | P-25 |
| SJOQUIST, KATRINA | P-3A |
| SLADE, RICHARD | P-8, P-82 |
| SMART, LOUISE | P-84 |
| SMITH, JOHN | P-24 |
| SMITH, MICHAEL | P-8, P-82 |
| SMYTH, S | P-61 |
| SNELL, KYM | O-9, P-47, P-53, P-75 |
| SOHAIB, ASLAM | P-38 |

| | |
|---|---|
| WALLACE, PAUL | P-11, P-25, P-26 |
| WAN, LOUISE | P-13, P-20 |
| WHILDING, LYNSEY | P-1, P-111 |
| WIDSCHWENDTER, MARTIN | P-33 |
| WILLIAMS, ALUN | P-17 |
| WILLIAMS, SARAH | P-113 |
| WILSON, CLAUDIA | P-43, P-56 |
| WINTER- ROACH, BRETT | P-8, P-82 |
| WINTERSGILL, LINDA | P-27 |
| WOODS, A | P-61 |
| WORKING GROUP, CONCORD | P-81 |
| WUNTAKAL, REKHA | P-93 |
| WYNN, MEDICAL STUDENT, EMILY | P-77 |
| YAP, BERNADETTE | P-104 |
| YAZBEK, JOSEPH | P-60 |
| ZAPARDIEL, IGNACIO | P-101 |

# FOR YOUR NOTES

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