Minimal Access Surgery in Gynaecology

Fiona Kew
Consultant Gynaecological Oncologist
Sheffield Teaching Hospitals
Overview of session

- What is minimal access surgery
  - Laparoscopic
  - Robotic
- Pros and Cons
- Indications in:
  - Ovarian cancer
  - Endometrial Cancer
  - Cervical Cancer
- Conclusions
Pros and Cons of Laparoscopic Surgery

**Benefits**
- Smaller incisions
- Less trauma
- Less bleeding
- Less pain, fewer narcotics
- Fewer complications – dehiscence, infection, cellulitis and hernia
- Early mobilisation – lower rates of chest infection and thromboembolic disease
- Shorter length of stay

**Limitations and risks**
- Difficult to learn
- Operating in 2 dimensions and in a mirror
- ‘straight stick’
- Risk of injury on entry
- Ergonomics
- Slower
- Cost
Pros and Cons of Robotic Surgery

**Benefits**
- 3D visualisation
- Articulated instruments
- Shorter learning curve
- Better ergonomics
- Less abdominal wall trauma
- Less blood loss
- Reduced length of stay

**Risks**
- No haptic feedback
- Surgeon not at operating table
- Communication
- Longer operating times
- Cost
SGO Survey 2012

- Society of Gynecologic Oncology
- US based
- 75% robotic radicals
- 70% uterine cancer commonest indication

![Graph showing laparoscopic and robotic procedures from 2004 to 2012]
Ovarian Cancer

• Indications
  – Low RMI
  – Diagnostic

• Risks
  – Visceral damage
Endometrial Cancer

Aetiology

Type 1
- unnopposed oestrogen
- tamoxifen
- Lynch

Type 2
- tamoxifen
- Lynch

Endometrial Hyperplasia (EIN)
Low Grade Endometrioid Adenocarcinoma
Incidence of Endometrial Cancer
**Women**

Base: Aged 16 and over

<table>
<thead>
<tr>
<th>Per cent</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
TLH in endometrial cancer

- 8 RCTs
- No difference in OS or DFS
- No difference in peri-operative death, transfusion, visceral injury of all types
- Shorter hospital stay
- Meta-analysis: lower blood loss, fewer severe post-op events

Surgery in the obese patient

• Obesity paradox
• Metabolic syndrome
  – Hypertension
  – Diabetes
• Wound complications
• SSI
• VTE

Patient positioning

- Legs
- Arms
- Slippage
  - Shoulder supports and gel pads
  - beanbags
Practicalities

- Manipulation
- Port positioning
- Port insertion/travelling
- Length of ports
- Prolapse
- Sigmoid
- Ergonomics
Additional Benefits of Robotics

• Reduced need for surgical assistance
  – Having 4 ‘hands’
• Ability to operate in a smaller space
• Ability to operate at lower insuflation pressures
Systematic Review of Robotic Surgery in Gynaecology (2014)

• Uncertain if robotic or conventional laparoscopic surgery has lower intraoperative and postoperative complication rates
• Inconsistency among studies when they are used for hysterectomy and sacrocolpopexy.
• Evidence suggests procedures take longer with Robotic surgery
• May be associated with a shorter hospital stay
• Limited evidence on the effectiveness and safety of robotic compared with laparoscopic or open surgery for surgical procedures performed for gynaecological cancer; therefore its use should be limited to clinical trials.

Liu H1, Lawrie TA, Lu D, Song H, Wang L, Shi G. Cochrane Database 2014
Cervical Cancer
SGO Survey 2012

- Society of Gynecologic Oncology
- US based
- 75% robotic radicals
- 70% uterine cancer commonest indication

![Bar graph comparing laparoscopic and robotic procedures from 2004, 2007, and 2012.]
Evidence


Conclusions

• Minimal access surgery offers advantages in terms of early recovery of patients
• It is technically more difficult than open surgery, takes longer, and the kit is more expensive
• It is equivalent to open surgery for oncological outcomes in endometrial cancer
• Recent studies suggest it has inferior oncological outcomes in early stage cervical cancer