Laparoskopik cerrahide morselasyon / büyük uterus ve doku çıkartma teknikleri

Prof. Dr. Hüsnü ÇELİK,
Başkent Üniversitesi, Tıp Fakültesi (Adana Yerleşkesi)
Laparoscopic surgery

- The advantages of laparoscopic surgery
  - Include small incisions,
  - Less postoperative pain,
  - Short hospital stay,
  - Earlier recovery and improved quality of life during the postoperative period.

- One of the challenges of laparoscopic surgery
  - To retrieve the specimen after excision without or with minimal spillage.

Medeiros LR, Cochrane Database Syst Rev, 2009
Spillage, Contamination, Dissemination,

- The risk of spillage of the cyst contents is associated with complications such as;
  - Pseudomyxoma peritonei (mucinous),
  - Chemical peritonitis (dermoid cyst),
  - The potential dissemination of malignancy.
  - Trocar site metastasis

The spillage rates of dermoid cysts
- 15 and 100% laparoscopy
- 4 to 13% laparotomy.
  Chemical peritonitis
- 0.22 and 8% (pelvic adhesive disease, bowel obstruction, abdominal wall abscesses, fistulas, detrimental impact on fertility)

Shamshirsaz AA, JSLS 2011; Nezhat CR, JSLS 1999; Kondo W, BJOG 2010
Specimen extraction

• Tissue removal must be performed in an expeditious manner
• The route of retrieval must not compromise patient safety, either intra or postoperatively.
• How to get overcome ??
Methods of removal for specimens excised laparoscopically

• Posterior Colpotomy
• Minilaparatomy (suprapubic, transumbilical, ancillary port-site)
• Laparoscopy-assisted cystectomy for large adnexal cysts
• Posterior colpotomy + endoscopic bag
• Trocar port + endoscopic bag
• Safety compartment technic
• Specimen retrieval bags have advantage;
  – To avoid the possibility of cyst spillage,
  – Avoiding contamination of the wound.
  – Once the cyst is securely in the bag, it can be decompressed to facilitate removal;
  – If a solid (fibroma) or semi-solid (dermoid) mass is large, it can be ‘piece-mealed’ in the bag with scissors, harmonic scalpel or morcellator.
Specimen retrieval bags

• Commercial bags can be costly,
• Difficult to manipulate and available only in standard sizes.
• There are bags with a frame that make it easier to drop the specimen into the bag.
‘easy-to-make’ bags ‘homemade’

- Surgical glove fingers (powder-free),
- Condoms
- Plastic bags.
  - Inexpensive,
  - Simple to make
  - Available in a choice of sizes,
  - No quality control !!!

Yao CC, Surg Laparosc Endosc Percutan Tech 2000
Large ovarian cysts

• Technical difficulty
  – Trocar insertion
  – Specimen retrieval
  – Poor visualisation,

• Ovarian masses of >10 cm, managed by laparotomy
  – For smaller specimens <10 cm, retrieval through the transumbilical port, with endoscopic bags (thinnest and most distensible portion of the anterior abdominal wall)
  – Simple cysts, can be decompressed,

• Solid or semi-solid ovarian tumours (such as dermoid cysts and fibromas) may prove more challenging.

General Principles for specimen removal

• Curative surgery OR Palliative surgery
  – No seeding
  – No contamination
  – No fragmentation

• The surgeon must be adept at techniques that allow mass removal without intracorporeal rupture

Sisodia RM, Clin Obstet Gynecol. 2015
MORCELLATION & FDA

- FDA Statement; 17 April 2014;
- For use in sarcomas; upstaging
- Confusion..
- Released opinion almost all of scientific institutions.
- Conclusions;
- inform the patient..
- If there is suspicion of sarcoma;
  "DO NOT USE MORCELLATION!!"

Risk for sarcoma?

- FDA meta-analysis of 18 studies:
  - Sarcoma risk for fibriod thought to 0.28%
    - LMS incidence: 0.64 / 100,000
- Literature:
  - 0.49% (1/204) --- 0.056% (1/1788)
- European meta-analysis: 0.14%
  - In myomectomy 0.08% (1/1306).
  - In hysterectomy to 0.15% (1/650).

‘Upstaging’
Uterine Leiomyosarcoma

- Re-exploration in patients with morcellated uterine leiomyosarcoma (15-118 days)

Disseminated intraperitoneal disease 28.5%

Oduyebo T, Gynecol Oncol. 2014
‘Upstaging’
Uterine Leiomyosarcoma

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>yaş</th>
<th>Takip/ay</th>
<th>(%)-5y DFS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morc(-)</td>
<td>27</td>
<td>45</td>
<td>64</td>
<td>84</td>
</tr>
<tr>
<td>Morc(+)</td>
<td>23</td>
<td>43</td>
<td>66</td>
<td>55</td>
</tr>
<tr>
<td>Morc(-)</td>
<td>31</td>
<td>47</td>
<td>52</td>
<td>65</td>
</tr>
<tr>
<td>Morc(+)</td>
<td>25</td>
<td>46</td>
<td>27</td>
<td>40</td>
</tr>
</tbody>
</table>

• What is the risk of sarcoma in patients with a presumed fibroid
• How to diagnose a uterine sarcoma and distinguish it from a fibroid
• What are the complications of morcellation
• How to prevent morcellation complications
• Recommendations on clinical management in patients with fibroids
FDA News Release

FDA allows marketing of first-of-kind tissue containment system for use with certain laparoscopic power morcellators in select patients

Agency continues to warn against use of laparoscopic power morcellators for removal of uterus or uterine fibroids in the vast majority of women

For Immediate Release        April 7, 2016

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm494650.htm
PneumoLiner, tissue containment system

• “The PneumoLiner is intended to contain morcellated tissue in the very limited patient population for whom power morcellation may be an appropriate therapeutic option – and only if patients have been appropriately informed of the risks,”

• “This new device does not change our position on the risks associated with power morcellation. We are continuing to warn against the use of power morcellators for the vast majority of women undergoing removal of the uterus or uterine fibroids.”

• “We want to be clear that, although the device has been shown to successfully contain morcellated tissue, it has not been proven to reduce the risk of cancer spread during surgery.”

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements
84% of gynecologist has changed procedure

- Mini LT: 58%
- TAH: 25%
- supracervical Hyst.: 39%

Gue et al, 2015
Trends in Mode of Hysterectomy After the FDA Power Morcellation Advisory

Route of hysterectomy among patients with leiomyomas by year (n, %). A. 2013 (n=268). B. 2014 (n=195). C. 2015 (n=176).

Type of hysterectomy among patients with leiomyomas by year (n, %). A. 2013. B. 2014. C. 2015.

Brigham and Women's Hospital, Boston

Ottarsdottir H, Obstet Gynecol. 2017
Laparoscopic hysterectomy methods over the years at the MIGS hospital.

Hysterectomies were analyzed from GHs (n = 21,495) and from a hospital specializing in MIGS (n = 749).

Ottarsdottir H, Obstet Gynecol. 2017
## Complication Rate of Laparoscopic Hysterectomies (Denmark)

<table>
<thead>
<tr>
<th>Complication</th>
<th>Cases (n)</th>
<th>Cases (%)</th>
<th>Cases (n)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat surgery</td>
<td>795</td>
<td>3.7</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Infection, rupture, sepsis</td>
<td>1612</td>
<td>7.5</td>
<td>36</td>
<td>4.8</td>
</tr>
<tr>
<td>Organ lesions</td>
<td>322</td>
<td>1.5</td>
<td>10</td>
<td>1.3</td>
</tr>
<tr>
<td>Periop-bleeding &gt;1000 mL</td>
<td>494</td>
<td>2.3</td>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>Total compl.</td>
<td>3223</td>
<td>15</td>
<td>52</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Istre O, JSLS. 2018
“C” Stage

Suh DH, J Gynecol Oncol, 2013
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hazard ratio (95% CI) on multivariate analysis</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes vs no</td>
<td>1.46 (1.14–1.87)</td>
<td>0.0027</td>
</tr>
<tr>
<td>Before surgery vs no</td>
<td>1.89 (1.27–2.80)</td>
<td>0.0013</td>
</tr>
<tr>
<td>During surgery vs no</td>
<td>1.94 (1.26–2.98)</td>
<td>0.0022</td>
</tr>
</tbody>
</table>
Survival impact of capsule rupture in stage I clear cell carcinoma of the ovary in comparison with other histological types.

OBJECTIVE:
We analyzed a large number of stage I clear cell carcinoma of the ovary (CCC) patients to estimate the survival impact of the capsule status in stage I CCC patients, particularly in comparison with non-CCC patients.

METHODS:
Clinicopathologic data on 564 patients with stage I epithelial ovarian cancer (EOC) collected under the central pathological review system were subjected to uni- and multivariable analyses to evaluate the disease-free survival (DFS) and overall survival (OS).

RESULTS:
In multivariable analysis, the capsule status was an independent prognostic factor of a poor OS and DFS {OS: HR, 2.832; 95% CI 1.156-6.938; P=0.023; DFS: HR, 4.327; 95% CI, 1.937-9.667; P=0.0004}} {In contrast, non-CCC: N.S. (OS/DFS)}. Furthermore, in CCC patients, intraperitoneal recurrences were more frequently observed in IC(non-ir) CCC than IA or IC(ir) CCC (P=0.0083) {In contrast, non-CCC: N.S.}.

CONCLUSION:
This study suggests that CCC patients other than those with intraoperative capsule rupture show a considerable risk for mortality despite adjuvant chemotherapy.

Higashi M. Gynecol Oncol. 2011
The clinical value of surgeons' efforts of preventing intraoperative tumor rupture in stage I clear cell carcinoma of the ovary: A Korean multicenter study

Objective

To demonstrate the survival impact of intraoperative tumor rupture in women with stage I clear cell carcinoma (CCC) of the ovary.

Methods

A total of 193 patients with stage I CCC of the ovary who had undergone a complete staging operation followed by ≥ three cycles of adjuvant platinum-based chemotherapy,

Results

Patients with stage IC2/IC3 compared to those with stage IC1, had poorer progression-free survival (PFS) (5-year PFS, 68.5% versus 91.7%; p = 0.010) and overall survival (OS) (5-year OS, 81.1% versus 95.4%; p = 0.027). However, there was no significant difference between patients with stages IA/IB and IC1 CCC in PFS (5-year PFS 88.8% versus 91.7%; p = 0.291) and OS (5-year OS 94.6% versus 95.4%; p = 0.444). Stage IC2/IC3 was the only independent poor prognostic factor for OS (hazard ratio, 3.50; 95% confidence interval, 1.31 to 9.36).

Conclusion

Surgical spillage of tumor cells does not appear to have a negative impact on survival outcomes of women with stage I ovarian CCC who received ≥ three cycles of adjuvant platinum-based chemotherapy.

Suh DH, Gynecologic Oncology, 2015
• Third generation....
After a follow-up of at least 6 months, these women remained disease free (range, 6–36 months). The final case of leiomyosarcoma occurred in the preoperatively defined low-risk group. Her extraction was done by vaginal morcellation without a bag. Second-look laparoscopy 3 months later showed no metastases.

Günthert AR, Am J Obstet Gynecol. 2015
Günthert AR, Am J Obstet Gynecol. 2015
Günthert AR, Am J Obstet Gynecol. 2015
Vaginal morcellation: A new strategy for large gynecological malignant tumor extraction: A pilot study (n: 8)

The vaginal morcellation following oncologic principles is a feasible method that permits a rapid uterine extraction and may avoid a number of unnecessary laparotomies. Further studies are needed to confirm the oncological safety of the technique.

Favero G, Gynecologic Oncology, 2012
Vaginal extraction of large uteri with the Alexis retractor

Kho K, J Minim Invasive Gynecol, 2009
Laparoscopic Single-Incision Supracervical Hysterectomy for an Extremely Large Uterus with Bag Tissue Extraction.

Guan X, J Minim Invasive Gynecol. 2017
Umbilical Zigzag Incision
