Total Laparoscopic Hysterectomy: Strategies for the Large Uterus
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Objectives
• Identify key anatomic landmarks that may vary in obese patients or patients with a significantly enlarged uterus
• Implement a new trocar placement strategy to improve surgical access in patients with large uteri
• Perform laparoscopic hysterectomies safely and without complications on patients with large uteri due to leiomyoma

Disclosures
• Covidien
  – Consultant
  – Speaker
• Teleflex-Weck
  – Consultant
• TransEnterix
  – Consultant
  – Stock
• CareFusion
  – Advisory Board
Hysterectomy for Benign Indications U.S. 2003


Review article:
Total laparoscopic hysterectomy in cases of very large uteri: A retrospective comparative study
Andrea Ficca, MD, Stefano Landi, MD, Fabrizia Barbone, MD, Riccardo Zaccoli, MD, Luca Trifcone, MD, Manuela Coccone, MD, Franco Pizzinato, MD, Francesco Ansani, MD, Daniele Borrello, MD, Anna Stefani, MD, Luca Minnig, MD, Luca Zanella, MD, and Luca Knebel, MD

J Minim Invasive Gynecol (2007)

Table 1: "Incision outcomes"

<table>
<thead>
<tr>
<th>Incision outcomes</th>
<th>Group A</th>
<th>Group B</th>
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<tbody>
<tr>
<td>Age (yr)</td>
<td>46.5 / 1.1 (44.8 / 42)</td>
<td>43.7 / 1.3 (42.1 / 41)</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Disease stage (pts)</td>
<td>6 (0-12)</td>
<td>6 (0-12)</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Operative time (min)</td>
<td>130 (120-175)</td>
<td>90 (75-106)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Blood loss (ml)</td>
<td>100 (75-200)</td>
<td>50 (15-100)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Length of stay (d)</td>
<td>3 (2-4)</td>
<td>1 (0-3)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Time to fully bung (d)</td>
<td>10 (7-15)</td>
<td>10 (7-15)</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Postoperative complications, no. (%)</td>
<td>3 (8.7)</td>
<td>2 (12)</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Other complications, no. (%)</td>
<td>3 (7.7)</td>
<td>1 (6)</td>
<td>&gt;.05</td>
</tr>
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</table>

Group A: mean weight < 120 kg, group B: mean weight > 120 kg.
Golden Surgical Principles

…The Same for Laparoscopy

- Knowledge of anatomy
- Adherence to surgical technique
- Strategies for preventing complications are the same

Pre-operative Considerations

- Port Placement
- Laparoscope Selection
- Instrumentation
- Pre-treatment

Set Yourself up for Success

- Port placement
  - Identify the inferior epigastrics and place ports lateral to vessels
  - Place your lateral ports AT or ABOVE the fundus of the uterus
The four-trocar method for performing laparoscopically-assisted vaginal hysterectomy on large uteri

Jung Suk Chai, MD, Young Seo Kyung, MD, Hee Byung Hwa, MD, Eui Jin Lee, MD, and Dong Suk Rho, MD

Port Positions

Figure 1: Covi’s 4 trocar method.

Port Positions
Port Positions

Set Yourself up for Success

- Choice of 'scope
  - 5 or 10 mm
  - 0° or 30°
Equipment

- Uterine manipulators
  - Transvaginal
  - Laparoscopic
- Hemostatic devices
- Graspers
  - Atraumatic/traumatic
  - Dissecting
- Needle drivers
- Knot pusher
Laparoscopic Manipulators

GnRH Agonist Treatment before Total Laparoscopic Hysterectomy for Large Uteri

<table>
<thead>
<tr>
<th>Table 2: Comparison of Perioperative Values in the Two Groups</th>
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<tbody>
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<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Operative time (min)</td>
</tr>
<tr>
<td>Operative blood loss (mL)</td>
</tr>
<tr>
<td>Length of hospital stay (days)</td>
</tr>
</tbody>
</table>
| Operative time after start of ovariole
cystectomy (min)                     | 17 ± 10.5| 15.5 ± 12.7| <0.005|

J Am Assoc Gynecol Laparosc. 2003 Aug
Intra-operative strategies

- Uterine artery coagulation
- In-situ morcellation
- Hand-assist/mini-laparotomy

Approach

- Open the anterior leaf of the broad ligament
- Pull anteriorly on the obliterated umbilical ligament (aka medial umbilical ligament)
  - This will help to identify the origin of the uterine
- Identify ureter crossing below
  - Bluntly opening pararectal space will assist
Hand-Assisted Laparoscopy for Complex Hysterectomy

Marie A. Perez, M.D., and Josef A. Palma III, M.D.

Abstract

In one case of ovarian cyst enlargement, laparoscopy for surgical and hand-assisted laparoscopic techniques is not feasible and requires a large abdominal incision. Hand-assisted laparoscopy permits the performance of such cases through a much smaller, plicature abdominal incision while preserving oncological resections. In a 50-year-old female with a grade-3 endometrioid, stage-Ib disease, and total surgical obliteration, resection was entirely performed by hand-assisted laparoscopy using the PenaRetro method through a 2.5 cm incision, a 3-cm incision, and a 3-cm laparoscopic incision. The operation lasted 110 minutes, and the blood loss was 200 ml, and the specimen weighed 300 g. The patient was discharged in excellent condition on the second postoperative day and had an uneventful recovery.
Hand-Assisted Laparoscopic Surgery (HALS)

- Indications
  - Complex laparoscopic procedures
  - Preventing open conversion
  - Overcoming a technical obstacle
  - Procedures requiring intact specimen removal

Hand-Assist Port Options

Spannuth, et al. Gynecol Oncol (2005); 99: 443 – 446
Requirements for HALS/Mini-Lap Hysterectomy/Debulking

- Visualization or palpation of entire uterus (determine extent of adhesions, rule out parasitic fibroids)
- Use of Vasopressin
- Pre-op hematocrit (consider cell saver, or autologous blood donation)
- Ready ability/willingness to convert to larger incision

Mini-Lap Hysterectomy

Hysterectomy Algorithm

Table 1  Minilaparotomy hysterectomy assisted by self-retaining elastic abdominal retractor

<table>
<thead>
<tr>
<th>Patient characteristic</th>
<th>Mean ± SD (95% CI)</th>
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<tbody>
<tr>
<td>Age (yrs)</td>
<td>45 ± 7.2 (45.3-47.7)</td>
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<tr>
<td>Weight (kg)</td>
<td>62.6 ± 10.8 (60.9-64.4)</td>
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<tr>
<td>Body mass index</td>
<td>24 ± 3.6 (23.4-24.5)</td>
</tr>
<tr>
<td>Deliveries</td>
<td>2 ± 1.2 (2.4-2.8)</td>
</tr>
<tr>
<td>Baseline weight (g)</td>
<td>131.8 ± 111.1 (113.8-149.6)</td>
</tr>
<tr>
<td>Surgical time (min)</td>
<td>70 ± 23.5 (63.1-70.7)</td>
</tr>
<tr>
<td>Hospital stay (days)*</td>
<td>2.5 ± 0.2 (2.4-2.6)</td>
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</tbody>
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*Not including the pulmonary embolism case.