Mini-laparotomy versus laparoscopy for benign gynecologic conditions

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ABSTRACT

PURPOSE: To compare conversions, operative time, and estimated blood loss for patients undergoing mini-laparotomy (+4 cm vertical or transverse abdominal incision) versus laparoscopy for gynecologic conditions.

METHODS: Data were collected retrospectively for patients who underwent laparoscopy or mini-laparotomy for gynecologic conditions at a single academic medical center from 1/2002-3/2011. Patients with malignancy or hysterectomy were excluded. Data were collected and analyzed in SPSS for windows 18.0.

RESULTS: 950 charts were examined, and 493 (52%) patients met the inclusion criteria of which 52/141 (29%) patients underwent mini-laparotomy. Ninety-five percent of mini-laparotomy patients were older, had higher BMI, and were more likely to be operated on by gynecologic oncologists. Patients undergoing mini-laparotomy had a significantly shorter mean operative time (49.25 vs. 91.5 minutes, p=0.003). Mini-laparotomy patients also had a significantly lower estimated blood loss (19.6 cc vs. 92.11 cc, p=0.000). Cumulative complication rate was not statistically different between the two groups (15% vs. 16%). For each type of complication (conversion, re-operation, overnight hospital admission, re-hospitalization, emergency department visit, wound complication) only wound complication rate was higher in the mini-laparotomy group (5/141 vs 1/352, sign = 0.008).

CONCLUSIONS: Mini-laparotomy is a safe alternative to traditional minimally-invasive approaches in gynecology and may offer the additional benefits of shorter intra-operative time and decreased blood loss.

STUDY GROUPS

<table>
<thead>
<tr>
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<th>Laparoscopy (n=352)</th>
<th>Mini-laparotomy (n=141)</th>
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<tbody>
<tr>
<td>Age</td>
<td>40.9 (12-88)</td>
<td>48.6 (12-88)</td>
</tr>
<tr>
<td>BMI</td>
<td>26.8 (16-49.8)</td>
<td>25.8 (13.3-51.6)</td>
</tr>
<tr>
<td>Resident Level</td>
<td>3.4 (1-5)</td>
<td>3.46 (1-5)</td>
</tr>
<tr>
<td>Indication</td>
<td>87% adnexal surgery</td>
<td>97% adnexal surgery</td>
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RESULTS

- There is a significantly shorter operative time in the mini-laparotomy group compared to the laparoscopy group, p = 0.000.
- There is a significantly greater estimated blood loss in the laparoscopic group as compared to the mini-laparotomy group, p = 0.003.
- Cumulative complication rate includes conversion, hospitalization, wound complication, emergency room visit, and re-operation. 52/352 laparoscopy patients and 23/141 mini-laparotomy patients had at least one of the above complications, p = 0.667.

CONCLUSIONS

There is a statistically significant lower estimated blood loss and operative time in mini-laparotomy as compared to laparoscopy for minor gynecologic surgery.

There is no statistical difference in complication rate between mini-laparotomy and laparoscopy including conversion, re-operation, re-hospitalization. There is a statistically significant difference in wound complication.

Mini-laparotomy is a safe and effective minimally invasive approach in gynecologic surgery and should be added to our armamentarium of approaches offered to our patients.

METHODS

- Retrospective
- Not matched
- Bias in reporting
- Missing data
- Case selection bias

REFERENCES


FURTHER RESEARCH

Randomized prospective clinical trial in which patients are randomized to L/S or mini-laparotomy for oopherectomy +/- salpingectomy, or ovarian cystectomy

Include patient-reported data about pain, loss of work days, return to bowel function, satisfaction

Cost-analysis