Postpartum Salpingectomy for Permanent Contraception and Cancer Risk Reduction

PNW Update in Ob/Gyn and Women’s Health

DATE: November 14, 2019
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Disclosures

• None
Objectives

- Review methods of permanent contraception and fallopian tube etiology of ovarian cancer
- Understand current recommendations and practice patterns
- Discuss literature regarding safety, feasibility, and cost-effectiveness of postpartum salpingectomy
Pop Quiz! True or False

• A salpingectomy is the removal of the mid-section of the fallopian tube.
• Salpingectomy should be discussed with all women undergoing a tubal ligation.
Female Permanent Contraception

- 2\textsuperscript{nd} most common US contraceptive method
- Surgical technique
  - Variable
  - Hysteroscopic – no longer available
- Timing
  - Interval
  - Postpartum
- High mortality
- No effective screening
- 70% Tubal origin?

Prophylactic or Opportunistic Salpingectomy
Society of Gynecologic Oncologists (SGO):
Consider salpingectomy at time of hysterectomy or other pelvic surgery to reduce ovarian cancer risk.
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American College of Obstetricians and Gynecologists (ACOG):
“Although data are limited, postpartum salpingectomy and salpingectomy at the time of cesarean delivery appear feasible and safe.”

“The risks and benefits of salpingectomy should be discussed with patients who desire permanent sterilization.”

Technique: remove fimbriated ends and any fimbrial attachments to the ovary.
Salpingectomy Rates Pre/Post ACOG Guidelines

Salpingectomy Rates by CPT and ICD Codes

Northern California Kaiser Database including >10,000 procedures

Increased Rate of Salpingectomy from 2011-2016

- Vaginal Delivery
- Cesarean Section

Is it feasible?

• Randomized control trial
• Population:
  – Women undergoing C-section
    • Standard BTL: Partial salpingectomy
    • Complete bilateral salpingectomy
• Primary Outcome
  – Mean total operative time
  – Completion rate

Salpingectomy Technique

- Line of amputation
- Mesosalpinx
- Fallopian tube
- Ovary
Primary Outcomes:
• Mean total operative time: salpingectomy 15 min longer
• Completion: salpingectomy less successful 68% vs 95%

Secondary Outcomes:
• Mean tubal operative time: salpingectomy 12 min longer
• Median EBL for tubal procedure: higher in salpingectomy group 10cc [5-25] vs. 5cc [5-10]
• No adverse outcomes in either group
Of those where salpingectomy was assigned, but not completed:
- Higher BMI (46 vs 36)
- Longer time from skin to tubal start (18 minutes)

<table>
<thead>
<tr>
<th></th>
<th>BTL</th>
<th>Salpingectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery BMI</td>
<td>39.4 +/- 7.4</td>
<td>38.8 +/- 10.0</td>
</tr>
<tr>
<td>H/o abdominal or pelvic surgery</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td># of prior cesareans</td>
<td>2.0 +/- 1.0</td>
<td>2.0 +/- 0.8</td>
</tr>
<tr>
<td>Cesarean type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>18%</td>
<td>3%</td>
</tr>
<tr>
<td>Repeat</td>
<td>83%</td>
<td>98%</td>
</tr>
<tr>
<td>Skin incision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical</td>
<td>8%</td>
<td>18%</td>
</tr>
<tr>
<td>Pfannenstiel</td>
<td>93%</td>
<td>83%</td>
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</tbody>
</table>
### Surgeon Satisfaction & Attitudes

<table>
<thead>
<tr>
<th></th>
<th>BTL</th>
<th>Salpingectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied with feasibility</td>
<td>92%</td>
<td>62%</td>
</tr>
<tr>
<td>Satisfied with safety</td>
<td>97%</td>
<td>53%</td>
</tr>
</tbody>
</table>
Conclusions

• 15 minutes extra operative time
• Safe
• 2/3rds successful completion

• Similar findings in other studies
If we think salpingectomy is a safe and feasible alternative...

– Do the benefits outweigh the risks?
– Is it cost effective?
Theoretic cohort of women undergoing cesarean delivery who desired permanent contraception
- Bilateral tubal ligation
- Bilateral opportunistic salpingectomy
- Postpartum LARC (baseline reference group)

Examined clinical outcomes and cost-effectiveness

Assumptions

Operative complications:

– Absolute baseline risk 6.9%
  • BTL: + 10 minutes = 7.6%
  • Salpingectomy: + 20 minutes = 8.3%

Pregnancy outcomes (unintended / ectopic):

– BTL: 0.45% risk pregnancy / 20% ectopic
– Salpingectomy: 0.38% risk pregnancy / 10% ectopic

Ovarian cancer:

– Absolute baseline risk 1.28%
  • BTL: 34% risk reduction
  • Salpingectomy: 64% risk reduction
TABLE 2
Clinical outcomes in study population of pregnant women seeking permanent sterilization at time of cesarean delivery

<table>
<thead>
<tr>
<th>Strategy</th>
<th>No. of ovarian cancer cases</th>
<th>No. of ovarian cancer deaths over 10 y</th>
<th>No. of surgery complications</th>
<th>No. of intrauterine pregnancies</th>
<th>No. of ectopic pregnancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean delivery with salpingectomy</td>
<td>507</td>
<td>302</td>
<td>9130</td>
<td>376</td>
<td>42</td>
</tr>
<tr>
<td>Cesarean delivery with tubal ligation</td>
<td>929</td>
<td>554</td>
<td>8360</td>
<td>396</td>
<td>99</td>
</tr>
<tr>
<td>Cesarean delivery with LARC</td>
<td>1051</td>
<td>625</td>
<td>7700</td>
<td>517</td>
<td>583</td>
</tr>
</tbody>
</table>

Assuming study population of 110,000 pregnant women desiring permanent sterilization at time of cesarean delivery.

LARC, long-acting reversible contraception.

Cost Effectiveness

• BTL procedure is cost-saving $64
• Both BTL and salpingectomy have favorable cost effectiveness ratios.
• Salpingectomy is more cost effective for outcomes of contraception and ovarian cancer risk reduction.
Is there a preferred strategy?

- 49% chance that BTL is the preferred strategy
- If salpingectomy complication risk is > 2% higher than BTL
  OR
- If cancer risk reduction of salpingectomy is <52%

  THEN

- Bilateral tubal ligation is the preferred strategy.
Conclusions

• BTL and Salpingectomy are both cost-effective strategies for permanent contraception and ovarian cancer risk reduction.

• Risks and benefits of salpingectomy with cesarean delivery need to be better defined before a preferred strategy can be determined.
Summary

• No evidence of short-term (peri-operative) risk or long-term risk with salpingectomy.
• Salpingectomy appears to be safe and feasible at time of cesarean section, though operative time may be increased.
• Limited data exists regarding salpingectomy the time of post-partum tubal (after vaginal delivery).
• Benefits include contraceptive efficacy and ovarian cancer risk reduction.
• Appears to be cost-effective
• Some questions still remain...
Considering postpartum salpingectomy in your practice?

- Discuss options during prenatal care
  - Benefits of BTL and salpingectomy: contraception and ovarian cancer risk
  - Risks: increased operative time, regret, inability to complete procedure
- Consider patient specific risks/surgical difficulty
- Develop a standardized technique and consider implementing a training plan
- Choose method based on intraoperative findings
Questions?

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• Routine & Complex Family Planning Care
  – Outpatient clinic sessions M-Th
  – 3 outpatient moderate sedation clinics + OR time
  – Multi-disciplinary (Heme+Gyn) clinics for Women & Girls with heavy menstrual bleeding
  – Center of Experience in Deep Implant Removals
CPT Codes:

• **At time of cesarean section:**
  – 58611: ligation or transection of fallopian tube(s) done at the time of cesarean delivery or intra-abdominal surgery.
  – 58700: Salpingectomy, complete or partial, unilateral or bilateral (separate procedure)

• **At time of laparoscopy:**
  – 58670: laparoscopy surgical; with fulguration of oviducts (With or without transection). This was developed specifically for reporting a laparoscopic elective sterilization.
  – 58661: laparoscopy surgical with removal of adnexal structures. This should be used when a disease process is involved (adnexal mass, paratubal cyst, etc).
Should we be routinely performing salpingectomy during cesarean deliveries?

“Ultimately, the value of salpingectomy requires more study to accurately balance the risks including complications, cost, surgical time, lack of reversibility, and potential effect on ovarian reserve against the benefits, including a higher rate of sterilization, lower reoperation rates, and, most importantly, the comparative reduction in ovarian cancer offered by salpingectomy over tubal occlusion.”

References

- ACOG Committee Opinion #774: Opportunisitic Salpingectomy as a Strategy for Epithelial Ovarian Cancer Prevention; April 2019.
- Deshpande NA et al. relationship between body mass index and operative time in women receiving immediate postpartum tubal ligation. Contraception 2019; 100:106-110.
References

• Kurman RJ, Shih I. Molecular pathogenesis and extraovarian origin of epithelial ovarian cancer—shifting the paradigm. Hum Pathol. 2011;42:918-31.
Questions?
Contact me

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