The Impact of Tubal Sterilization Techniques on the Risk of Serous Ovarian and Primary Peritoneal Carcinoma:
A Rochester Epidemiology Project (REP) Study

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VERBAL DISCLOSURE

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Background

- Historical data shows tubal ligation decreases risk of ovarian cancer
- Emerging data suggests fallopian tube as potential origin of serous gyn cancers
- Numerous methods of tubal sterilization exist, including varying degrees of salpingectomy
- p53 signature a potential serous carcinoma precursor

Hypothesis

- Excisional tubal sterilization techniques account for decrease in risk of serous EOC and PPC
Materials and Methods

• Population-based, historical case-control study
  – 1966 – 2010
  – Rochester Epidemiology Project (REP)

• Cases – all serous EOC or PPC during study period
• Controls – matched for age ± 2 years and index date
  – 2 controls: 1 case

• Excisional tubal sterilization defined as
  – Complete salpingectomy
  – Partial salpingectomy
  – Distal fimbriectomy
## Results

<table>
<thead>
<tr>
<th>Univariate analyses</th>
<th>Cases (n=194)</th>
<th>Controls (n=388)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age [mean(SD)]</td>
<td>61.4 (15.2)</td>
<td>61.4 (15.2)</td>
<td></td>
</tr>
<tr>
<td>BMI [median(IQR)]</td>
<td>26.5 (22.9, 30.5)</td>
<td>25.9 (22.8, 30.3)</td>
<td>0.38</td>
</tr>
<tr>
<td>Gravidity [median(IQR)]</td>
<td>2.0 (1.0, 4.0)</td>
<td>3.0 (2.0, 5.0)</td>
<td>0.003</td>
</tr>
<tr>
<td>Parity [median(IQR)]</td>
<td>2.0 (1.0, 3.0)</td>
<td>3.0 (1.0, 4.0)</td>
<td>0.007</td>
</tr>
<tr>
<td>OCP use [%]</td>
<td>33.3%</td>
<td>4.28%</td>
<td>0.010</td>
</tr>
<tr>
<td>Prior hysterectomy [%]</td>
<td>15.5%</td>
<td>32.2%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>History of infertility [%]</td>
<td>10 (5.2%)</td>
<td>15 (3.9%)</td>
<td>0.47</td>
</tr>
<tr>
<td>History of endometriosis [%]</td>
<td>9 (4.6%)</td>
<td>13 (3.4%)</td>
<td>0.44</td>
</tr>
</tbody>
</table>
Any Tubal Technique ("Excisional" & Non-Excisional) vs No Tubal

Unadjusted Matched Analysis
OR = 0.54
95% CI, 0.28-1.04
p=0.066

Adjusted Matched Analysis
OR = 0.56
95% CI, 0.28-1.11
P=0.098

7.2% (n=14)
11.9% (n=46)
"Excisional" Techniques
vs
"No Tubal & Non-Excisional Techniques"

Unadjusted Matched Analysis –
"Excisional" vs "No Tubal & Non-Excisional" Techniques

**OR = 0.37**
95% CI, 0.15-1.00
p=0.051

Adjusted Matched Analysis –
"Excisional" vs "No Tubal & Non-Excisional" Techniques

**OR = 0.36**
95% CI, 0.13-1.00
p=0.050
Conclusions

• Excisional tubal sterilization confers greater risk reduction for serous EOC and PPC

• This data further supports the hypothesis of the fallopian tube as a source of serous gynecologic malignancies

• A larger population-based study is warranted to confirm these results