Large Loop Excision of the Transformation Zone (LLETZ): Is the 6 month outcome related to the biopsy volume?

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Declaration of interests – none
Background

• LLETZ is the most common excisional treatment for CIN.
• Aim to excise in entirety with depth >7mm.
The risk

- Women treated for CIN increased risk preterm labour (RR 1.96-2.19) Bruinsma 2011
- Inherent risk preterm labour if attend colp (8.8% vs 6.7%) Castanon 2012
- Also higher risk larger depth:
  - Small <10mm (7.5% CI 6-8.9%)
  - Medium 10-14mm (9.6%)
  - Large 15-19mm (15.3%)
  - V large >20mm (18%)

[Castanon 2014]
Table 3: Adjusted relative and absolute risk of preterm birth by volume of tissue excised

<table>
<thead>
<tr>
<th>Volume of excisional treatment</th>
<th>No (%) cases</th>
<th>No (%) controls</th>
<th>Relative Risk* (95% CI)</th>
<th>Absolute risk (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punch biopsy</td>
<td>210 (27.3)</td>
<td>274 (33.0)</td>
<td>0.72 (0.75 to 1.27)</td>
<td>7.3</td>
</tr>
<tr>
<td>Small volume (≤1.77 cm³)</td>
<td>229 (29.8)</td>
<td>297 (35.8)</td>
<td>1 (reference)</td>
<td>7.4</td>
</tr>
<tr>
<td>Medium volume (1.78-2.65 cm³)</td>
<td>95 (12.4)</td>
<td>90 (11.2)</td>
<td>1.40 (1.02 to 1.93)</td>
<td>10.4</td>
</tr>
<tr>
<td>Large volume (≥2.66 cm³)</td>
<td>165 (21.5)</td>
<td>198 (24.1)</td>
<td>2.07 (1.56 to 2.76)</td>
<td>15.4</td>
</tr>
<tr>
<td>Unknown volume</td>
<td>69 (9.0)</td>
<td>71 (8.6)</td>
<td>1.26 (0.88 to 1.79)</td>
<td>9.4</td>
</tr>
</tbody>
</table>

*Adjusted for parity, index of multiple deprivation, maternal age at delivery, and study site.

[Castanon 2014]

What is the effect on TOC?
Aims

• Assess whether the 6 month test of cure outcome is related to the LLETZ biopsy volume.
Methods

• Retrospective study Nov 13 - Nov 15
• 227 women attended Test of cure clinic
• Excluded women if either lack of volume data or lack of outcome data. Also excluded LLETZ histology low grade disease.
• Collect details
• Calculate vol = \(\frac{1}{6}\pi \times \text{length} \times \text{width} \times \text{depth}\)
• Analyse data
Results

• 227 women attended the clinic
• Exclude:
  – 4 women no dimensions LLETZ
  – 22 lack of outcome data
  – 57 low grade histology
• Remaining 142 women
  – Median 32yo (range 23-61 yrs)
  – 1% immunosuppressed
  – 11% smokers
• 29% more one LLETZ sample
• Average volume 1.66cm$^3$ (small)
• Excision rates: 43% complete, 28% incomplete and remaining n/a or could not be assessed
Results continued

Total LLETZ n = 227

Of those included
N = 142
F/U TOC results

Severe cytology
N = 4 (3%)
LLETZ volume of 0.91cm³

Excluded N = 83

Inadequate
N = 9 (6%)

Cytology negative
HPV negative
N = 106 (75%)
LLETZ volume 1.67cm³

Cytology negative
HPV positive
N = 18 (13%)
LLETZ volume 2.08cm³

Cytology low grade
N = 5 (%)
2 HPV positive
2 HPV negative
1 HPV not done!
LLETZ volume 1.56cm³
Conclusions

• Overall the rates of residual high-grade disease following LLETZ remains reassuringly low (3%).

• Suggests that residual disease more common if very small volume LLETZ. As group so small, makes it difficult to test strength association.

• Biological plausibility
References

• Bruinsma FJ, Quinn MA. The risk of preterm birth following treatment for precancerous changes in the cervix: a systematic review and meta-analysis. BJOG 2011;118:1031-41.