Cervical Cancer Prevention in Pregnant Women: Is Biopsy Useful?

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ABSTRACT

OBJECTIVE: To estimate if cervical biopsy at the time of colposcopy changes the management or outcome of abnormal cervical cytology during pregnancy.

STUDY DESIGN: Retrospective cohort study of pregnant women with abnormal cervical cytology (CC) who underwent colposcopy from 2005-08. Women who had a cervical biopsy (CBx) at the time of colposcopy were compared to those that did not. The primary outcomes were the rates of regression, persistence, and progression. Regression and progression were defined as ≥1 degree of difference between antepartum CC and postpartum CC. A multinormal regression analysis was used to control for confounding.

RESULTS: 177 pregnant women with abnormal cervical cytology were referred to colposcopy. The incidence of ASCUS high risk HPV, LSIL, and HSIL cervical cytology was 43%, 52%, and 3% respectively. The colposcopic diagnosis was CIN1 in 45%, CIN2 in 15% and CIN3 in 1%. Comparing the results of antepartum to postpartum CC, the performance of a CBx was not associated with a significant difference in outcome (Table 1, p=0.85). Comparing colposcopy to postpartum CC, performance of a CBx was associated with a lower rate of progression even after controlling for age, tobacco use, previous abnormal CC, and trimester at the time of cervical cancer screening (Table 2, p=0.06). No women were treated by excisional procedure and no cases of cervical cancer were diagnosed during the study period.

CONCLUSION: Biopsy of suspected cervical lesions can be safely deferred until after pregnancy because there were no significant changes between antepartum and postpartum CC and no cases of cervical cancer were detected.

BACKGROUND

• Each year in the United States abnormal cervical cytology (ACC) affects 2-7% of pregnant women (ie. 80,000-320,000)
• 0.5-1% will be diagnosed with cervical intraepithelial neoplasia
• Several published reports support the accuracy of visual colposcopic impression during pregnancy
• Perceived risks limit the number of cervical biopsies performed during pregnancy
  • By not performing a biopsy, there is a small chance:
    1) of progression to invasive cancer during pregnancy
    2) that invasive cancer will be missed
• Objective: to estimate if cervical biopsy (CBx) at the time of colposcopy changes the management or outcome of ACC during pregnancy

MATERIALS & METHODS

• Retrospective cohort study of pregnant women with ACC who underwent colposcopy from 2005-08
  • Only women who returned for postpartum cervical cytology were included
  • Women who had CBx at time of colposcopy were compared with those that did not
  • Primary outcomes were the rates of regression, persistence, and progression
  • Progression and regression were defined as ≥1 degree of difference

RESULTS (cont)

• In an additional analysis, there was no difference in the rates of regression, persistence, and progression comparing colposcopic diagnosis to postpartum cervical cytology (p=0.897)
• There was no difference in the rates of regression, persistence, and progression comparing antepartum to postpartum cervical cytology (p=0.82; data not shown)

CONCLUSIONS

• Antepartum knowledge of cervical biopsy results did not change the management of ACC during pregnancy
• For most pregnant women with abnormal cervical cytology, CBx can be safely deferred until after pregnancy
  • ASCCP Guideline: only when there is a suspicion of CIN2,3 or cancer should a CBx be performed during pregnancy
• The low incidence of cervical cancer during pregnancy and small sample size should be taken into consideration when interpreting these results

Table: Maternal demographic characteristics

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>CBx (n=25)</th>
<th>No CBx (n=152)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>24 (18-39)</td>
<td>22 (13-41)</td>
<td>.031</td>
</tr>
<tr>
<td>History of prior ACC</td>
<td>18 (72%)</td>
<td>51 (34%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>History of excisional procedure</td>
<td>2 (8%)</td>
<td>5 (3%)</td>
<td>.258</td>
</tr>
<tr>
<td>Tobacco use†</td>
<td>11 (44%)</td>
<td>34 (22%)</td>
<td>.023</td>
</tr>
<tr>
<td>HIV positive†</td>
<td>3 (4%)</td>
<td>1 (2%)</td>
<td>.463</td>
</tr>
<tr>
<td>History of STD</td>
<td>16 (64%)</td>
<td>91 (60%)</td>
<td>.695</td>
</tr>
</tbody>
</table>

*data missing for 1 woman; *data missing for 9 women

Figure 1: Accuracy of visual colposcopic impression

Figure 2: Outcome rates compared by biopsy group

RESULTS

• 177 pregnant women met the inclusion criteria
• Women who had a CBx were older, more likely to have a history of ACC, and more likely to use tobacco (table)