Colposcopic genital findings in female sexual assault victims: Relationship to prior sexual intercourse experience

There is scant literature addressing genital injuries in sexually assaulted women who had no prior sexual intercourse experience at the time of the assault. Prior studies in adolescent patients suggest that young women without prior sexual intercourse suffer more anogenital injuries after assault, in different locations, when compared to those women who have had prior sexual intercourse experience [1,2]. However, clinical evidence and the literature on sexual assault indicate that not all cases of penetration result in perforation of the hymen [1,2]. However, clinical evidence and the literature on sexual assault in-...
view a lack of injuries as a negative finding. This may challenge police and prosecutors who often had no evidence of anogenital trauma despite magnification. In addition, over 18% of virgins who were sexual assaulted described genital injuries unrelated to sexual assault in women may vary in relation to prior sexual intercourse experience. A third study from Australia described the frequency of genital injury was significantly higher in the “no prior sex group” when compared to their counterparts (52.2% vs 19.5%) [2]. The discrepancy between these three studies and our findings is related to whether the examination is conducted with the naked eye or under colposcopic magnification. In addition to magnification, our NEC facility also used toluidine blue as a tool to detect and document genital and perianal injuries following sexual assault. Application of toluidine blue dye and its subsequent removal from stained areas by means of a reagent, has been shown to increase the detection rate of external genital lacerations from 16% to 40% in adult rape victims [6].

Emergency department clinicians and members of the criminal justice system need to be aware of the variable presentation of genital trauma related to sexual assault in women with and without prior sexual intercourse experience. The type and site of genital trauma from sexual assault in women may vary in relation to prior sexual intercourse experience. In addition, over 18% of virgins who were sexual assaulted had no evidence of anogenital trauma despite magnification and nuclear staining. This may challenge police and prosecutors who often view a lack of injuries as a negative finding [1]. Finally, anogenital injuries in virgins were located not just at the hymen but equally on the fossa navicularis and labia minora (Fig. 2).

References


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Table 1
Demographics.

<table>
<thead>
<tr>
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<th>Women without prior intercourse experience</th>
<th>Women with prior intercourse experience</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>Age, mean (±SD)</td>
<td>17.0 ± 7.1</td>
<td>26.2 ± 11.3</td>
<td>&lt;0.0001</td>
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<tr>
<td>Age range (years)</td>
<td>12–51</td>
<td>13–74</td>
<td></td>
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<tr>
<td>Ethnicity (% white)</td>
<td>63 (75.0%)</td>
<td>233 (71.0%)</td>
<td>0.47</td>
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<tr>
<td>Alcohol or drug use &lt;24 h</td>
<td>35 (42.7%)</td>
<td>160 (48.8%)</td>
<td>0.32</td>
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<tr>
<td>Time interval to examination, hours (mean ± SD)</td>
<td>15.4 ± 6.6</td>
<td>17.0 ± 7.1</td>
<td>0.07</td>
</tr>
<tr>
<td>Known offender</td>
<td>55 (67.1%)</td>
<td>206 (62.8%)</td>
<td>0.47</td>
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<tr>
<td>Nongenital injuries</td>
<td>31 (37.8%)</td>
<td>144 (43.9%)</td>
<td>0.32</td>
</tr>
<tr>
<td>Genital injuries</td>
<td>67 (81.7%)</td>
<td>240 (73.2%)</td>
<td>0.11</td>
</tr>
<tr>
<td>Mean no. genital injuries</td>
<td>3.4 ± 1.9</td>
<td>1.9 ± 1.3</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Fig. 1. Location and frequency of injury in 307 victims with anogenital findings.

Fig. 2. Types of genital trauma.