Menses – to test or not to test?

Dr. Sarah Schoeman
Consultant GUM & HIV Medicine
Leeds Teaching Hospitals Trust
Should I test women on their period?

I just request a urine sample.

In Leeds we sample all women the same regardless of menstrual status.

Which test(s) should I do in menstruating women?

I do a urine, endocx & VVS CT/GC NAAT.

‘I advise women to return when they are not on their period.’

Background

Should I test women on their period?

Which test(s) should I do in menstruating women?

‘I just request a urine sample.’

In Leeds we sample all women the same regardless of menstrual status.

Should I test women on their period?

Which test(s) should I do in menstruating women?

‘I do a urine, endocx & VVS CT/GC NAAT.’
Published evidence / national guidance?

- Very little published evidence to inform clinicians – none for VVS or GC NAATs.
- No current national guidelines specific to testing menstruating women for chlamydia & gonorrhoea.
- Expert opinion divided - menses potential to reduce test performance vs increased cervical shedding / menses might enhance test performance?


What about our patients?

No advice re menses

Do not use this test during menstruation and for three days after the end of your period.

I don’t think they can still do it when you’re on your period cos they take a sample from your vagina.

No advice re menses

No they cannot do a swab test for chlamydia when you are on your period. However, a urine sample can be taken.

Your doctor will explain any preparation you need to do for the test like not taking the test near when you get your period.
Study summary

- 3973 women recruited
- Overall prevalence: CT = 10.3% & GC = 2.5%
- Menstrual status documented – yes / no

<table>
<thead>
<tr>
<th>Sample site (performed by)</th>
<th>Diagnostic tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vulvo-vaginal swab (patient)</td>
<td>AC2 assay – CT &amp; GC</td>
</tr>
<tr>
<td>Endocervix (clinician)</td>
<td>AC2 assay – CT &amp; GC</td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th></th>
<th>Menstruating</th>
<th>Non-menstruating</th>
<th>Unadjusted odds ratio &amp; 95% CIs</th>
<th>P value (Chi² + Yates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>162 (4%)</td>
<td>3811 (96%)</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>CT positive</td>
<td>30 (18.5%)</td>
<td>380 (10%)</td>
<td>OR: 2.05 95% CI: 1.36 – 3.09</td>
<td>0.0008</td>
</tr>
<tr>
<td>GC positive</td>
<td>10 (6.2%)</td>
<td>90 (2.4%)</td>
<td>OR: 2.72 95% CI: 1.39 – 5.33</td>
<td>0.0055</td>
</tr>
<tr>
<td>CT and/or GC</td>
<td>33 (20.4%)</td>
<td>422 (11.1%)</td>
<td>OR 2.04 95% CI: 1.38 – 3.05</td>
<td>0.0004</td>
</tr>
</tbody>
</table>
Factors associated with menses

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Menstruating (162)</th>
<th>Non-menstruating (3811)</th>
<th>Odds Ratio (95% CI)</th>
<th>P value (Chi² + Yates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>24</td>
<td>25</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Prev STI</td>
<td>46 (28%)</td>
<td>1434 (38%)</td>
<td>0.66 (0.46-0.93)</td>
<td>0.02</td>
</tr>
<tr>
<td>Contact of person with a bacterial STI</td>
<td>20 (12%)</td>
<td>236 (6%)</td>
<td>2.13 (1.31-3.47)</td>
<td>0.003</td>
</tr>
<tr>
<td>Symptoms of a bacterial STI</td>
<td>80 (49%)</td>
<td>1591 (42%)</td>
<td>1.36 (0.99-1.86)</td>
<td>0.06</td>
</tr>
<tr>
<td>Cervicitis</td>
<td>2 (1%)</td>
<td>216 (6%)</td>
<td>0.21 (0.05-0.84)</td>
<td>0.02</td>
</tr>
<tr>
<td>PID</td>
<td>8 (5%)</td>
<td>161 (4%)</td>
<td>1.18 (0.57-2.44)</td>
<td>0.81</td>
</tr>
<tr>
<td>Ethnicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>126 (77%)</td>
<td>3045 (80%)</td>
<td>0.88 (0.60-1.29)</td>
<td>0.58</td>
</tr>
<tr>
<td>Black</td>
<td>17 (10%)</td>
<td>345 (9%)</td>
<td>1.18 (0.70-1.97)</td>
<td>0.62</td>
</tr>
</tbody>
</table>
Results after adjusting for confounding variables

- Menstruating women remained more likely to be diagnosed with chlamydia
  - Adjusted OR 1.98; 95% CI 1.27-3.09; \( p=0.003 \)

- Menstruating women remained more likely to be diagnosed with gonorrhoea
  - Adjusted OR 2.72; 95% CI 1.34-5.51; \( p=0.005 \)

- Menstruating women remained more likely to be diagnosed with chlamydia and/or gonorrhoea
  - Adjusted OR 2.00; 95% CI 1.30-3.06; \( p=0.002 \)
How does VVS compare to endoCx?

- **Chlamydia results:**
  - 3867 women had complete paired CT results (paired McNemar’s)
  - In 157 menstruating women: sensitivities
    - VVS AC2 = **100%**
    - EndoCx AC2 = **97%** (28/29)  
      - p = 1

- **Gonorrhoea results:**
  - 3863 women had complete paired GC results (paired McNemar’s)
  - In 157 menstruating women: sensitivities
    - VVS & EndoCx = **100%** (10/10)  
      - p = 1
Conclusions / Discussion

- Menses does not have a negative effect on the performance of CT/GC NAATs; in fact the prevalence of infections was higher in menstruating women.

- Only 4% of study patients were menstruating suggesting that women avoid attending for STI testing during their period unless really necessary!

- We, therefore, recommend that CT&GC testing should be performed during menstruation using vulvovaginal swabs.
Acknowledgements

- Janet Wilson & Catherine Stewart
- Patients & Staff @ LTHT
- Gen-Probe
- Those persistent questioners!