CASE REPORT: COBBLESTONE

TV or not TV?

A Smith, S Portsmouth, B Curran, D Warhurst, P Kell, N Saulsbury

Arco’s Sexual Health Clinic is an inner city genito-urinary medicine clinic. Its attendees have a high prevalence of sexually transmitted infections (STIs) by UK standards. Trichomonas vaginalis (TV) was found in 2.3% of women screened in the year 2000. TV is diagnosed by wet preparation microscopy and cultures. Typically 1–5 women/week are diagnosed with TV.

In February 2001 12 women were diagnosed with TV by wet preparation microscopy in a 1 week period. This cluster was noted, raising the possibility of a local TV epidemic. Case notes were reviewed to further investigate this cluster.

CASE REPORTS

Four of 12 cases of TV occurred in asymptomatic women, with unremarkable examinations, three with normal vaginal pH values (see table 1). Monogamous sexual histories suggested these four cases were at low risk for STIs. The remaining eight cases were classified as higher risk for TV (multiple partners/previous TV/sexual assault). Symptoms and findings in some cases could be explained by concomitant diagnoses (bacterial vaginosis/candidiasis/Neisseria gonorrhoea/Chlamydia trachomatis).

Culture results for TV were only positive for 2/12 patients. Case note review demonstrated unexpectedly high levels of TV which were diagnosed by wet preparation microscopy and culture confirmation. There is a need to provide good reference materials for microscopy. We recommend a second staff member checks all positive wet preparation microscopy and culture confirmation. There is also a need to provide good reference materials for microscopy. An awareness of organisms, like Bodo saltans, could prevent similar misdiagnosis recurring.

THE CONTAMINANT

Bodo saltans is a flagellate protozoan with worldwide distribution. It is non-pathogenic. It measures 4–10 µm long and is usually ovoid in shape. It has a short anterior and a longer trailing flagella (which mimics the undulating membrane of TV). Bodo saltans can spread as an airborne cyst. We hypothesise a cyst landed in saline, containing bacteria, in the examination room and hatched. Reproduction by binary fission then occurred. This is the first reported case in a genitourinary medicine clinic. There are many other similar organisms that could result in contamination and misdiagnosis.

RECOMMENDATIONS

This contamination could occur elsewhere. False positive diagnosis of STIs can have a variety of important emotional, psychological, and medicolegal sequelae. Our experience has enabled us to improve diagnosis of TV and eliminate the risk of saline contamination with this and other flagellate organisms. Contaminated saline can be avoided by using sterile saline applied directly onto a microscope slide. Saline should not be applied from non-sterile containers or with reusable pipettes.

Microscopic diagnosis can be improved by increasing familiarity with the morphology and motility of TV. We recommend a second staff member checks all positive wet preparation microscopy and culture confirmation. There is also a need to provide good reference materials for microscopy. An awareness of organisms, like Bodo saltans, could prevent similar misdiagnosis recurring.

Key points
- A variety of flagellate protozoa resembling Trichomonas vaginalis can contaminate saline
- Use of sterile saline for wet preparation microscopy will avoid such contamination

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**Table 1** A summary of findings from the case notes review

<table>
<thead>
<tr>
<th>Case No</th>
<th>Symptoms</th>
<th>Signs</th>
<th>pH</th>
<th>Microscopic findings</th>
<th>Previous STI</th>
<th>Concurrent GU problems</th>
<th>Sexual risk</th>
<th>TV culture result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
<td>4</td>
<td>Normal</td>
<td>Chlamydia</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>2</td>
<td>None</td>
<td>None</td>
<td>4.5</td>
<td>Normal</td>
<td>Warts</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>3</td>
<td>None</td>
<td>None</td>
<td>4.5</td>
<td>Normal</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>4</td>
<td>None</td>
<td>None</td>
<td>5.5</td>
<td>Candida</td>
<td>Warts</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>5</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>5.5</td>
<td>Mixed flora</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>6</td>
<td>Dysuria</td>
<td>Discharge cervicitis</td>
<td>5</td>
<td>Mixed flora</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>7</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>5</td>
<td>Mixed flora</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>8</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>4.5</td>
<td>Spores</td>
<td>None</td>
<td>None</td>
<td>Low</td>
<td>Negative</td>
</tr>
<tr>
<td>9</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>6.5</td>
<td>Candida</td>
<td>Bacterial vaginosis</td>
<td>Yes</td>
<td>Negative</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>6.5</td>
<td>Clue cells</td>
<td>Chlamydia</td>
<td>Yes</td>
<td>Negative</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Discharge</td>
<td>Discharge cervicitis</td>
<td>6.5</td>
<td>Clue cells</td>
<td>HSV</td>
<td>Chlamydia, bacterial vaginosis</td>
<td>Yes</td>
<td>Negative</td>
</tr>
<tr>
<td>12</td>
<td>Discharge</td>
<td>Vaginitis, cervicitis</td>
<td>6</td>
<td>Normal</td>
<td>None</td>
<td>Chlamydia</td>
<td>Yes</td>
<td>Positive</td>
</tr>
</tbody>
</table>

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**References**


2. Chlamydia trachomatis

3. Bodo saltans

4. Trichomonas vaginalis

5. Sexual Transm Infect.

6. www.sextransinf.com

7. Sex Transm Infect: first published as 10.1136/sti.78.3.185 on 1 June 2002. Downloaded from http://sti.bmj.com, on September 15, 2023 by guest. Protected by copyright.
CONTRIBUTORS
All authors contributed to the manuscript; AS prepared the first and final manuscript; AS, SP and BC collated data on the subjects; DW identified and described *Bodo saltans*; PK and NS reviewed and amended the manuscript.

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9. Enter/amend your contact information, and update your expertise data.

REFERENCES


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