Although the Pap smear does not have as its purpose the microbiological diagnosis, the Brazilian Nomenclature for Cytological Reports[1] and the Bethesda System suggest that the method can point to the presence of morphotypes of bacteria, fungi and parasites[2].

Authors have studied the Papanicolaou method for identifying pathogens with different sensitivities, specifically in the diagnosis of bacterial vaginosis, candidiasis and trichomoniasis ranging from 30 to 90%[3,4]. The subjectivity of the method and not using of immersion objective of the microscope, and the habit of using Papanicolaou for screening but not for microbiological diagnosis, explain differences in sensitivity. Who works with Papanicolaou is cytopathologist, not microbiologist, so with a different focus.

With the introduction of methods of liquid based cytology appears to have been significant improvements in detection rates of fungal but not bacterial vaginosis and Trichomonas[5].

The identification of association between microorganisms has been observed with frequently between vaginosis and Trichomonas and bacterial vaginosis and Actinomyces[6]. Few have been concerned by the possibility of observing the association between presence of Gardnerella vaginalis and Candida, which is possible[7].

Although the difference in pH could be a factor impeding the coexistence of candidiasis and bacterial vaginosis, no one knows for sure how often this association occurs.

The objective of this study was to identify the frequency of Candida sp. and bacterial vaginosis and what factors might be associated with a greater chance of finding in cytology in liquid medium.

It was conducted a cross-sectional pilot study in 272 women diagnosed with bacterial vaginosis by finding over 20% of “clue cells” in Papanicolaou smear[8] processed by liquid-based method (SurePath). Data from medical records of patients were studied and the smears were evaluated by experienced cytopathologist.
Thus it is evident the need for a large multicenter prospective study to estimate the actual frequency of the association between bacterial vaginosis and vaginal candidiasis basing new diagnostic and therapeutic perspectives.

Conflict of interest
No conflict of interest to declare.

REFERENCES

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Table 1 – Comparison of the frequency of association of bacterial vaginosis and candidiasis in cytology

<table>
<thead>
<tr>
<th>Fonte</th>
<th>Método diagnóstico</th>
<th>Frequência da associação de vaginose bacteriana e candidíase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di Bartolomeo et al. (2002)(6)</td>
<td>Fresh exam and culture</td>
<td>7.9% (16/202)</td>
</tr>
<tr>
<td>Wei et al. (2012)(7)</td>
<td>Pap test</td>
<td>22.1% (104/471)</td>
</tr>
<tr>
<td>Saleh et al. (2012)(9)</td>
<td>Gram, culture and BD Affirm VPIIITM®</td>
<td>11.7% (31/264)</td>
</tr>
<tr>
<td>Results of this study</td>
<td>Liquid-based cytology (SurePath BD®)</td>
<td>6.7% (18/272)</td>
</tr>
</tbody>
</table>

Table 2 – Study of the chance of association between bacterial vaginosis with *Mobiluncus* and *Candida sp.* depending on the presence of inflammatory infiltrates in cytological smear

<table>
<thead>
<tr>
<th><em>Mobiluncus</em> absent</th>
<th><em>Mobiluncus</em> present</th>
<th>p</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>With inflammatory infiltrate</td>
<td>111 8</td>
<td>0.0002</td>
<td>0.2409 (0.1071 – 0.5420)</td>
</tr>
<tr>
<td>No inflammatory infiltrate</td>
<td>117 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Candida negative</em></td>
<td><em>Candida positive</em></td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>With inflammatory infiltrate</td>
<td>102 17</td>
<td>&lt; 0.0001</td>
<td>175.1667 (23.0738 – 1,329.7932)</td>
</tr>
<tr>
<td>No inflammatory infiltrate</td>
<td>151 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fisher’s exact test with a confidence interval of 95%.