ABSTRACT

Background: Cervical-vaginal infections are common problems in women of reproductive age groups. *Trichomonas vaginalis* is one of the major organisms causing vaginitis. Trichomonas vaginalis is an anaerobic, flagellated protozoan. The main objective of this study was to study the clinical findings of women with *Trichomonas vaginalis*. 

Methods: This was a hospital based descriptive study carried out in the Department of Pathology and Gynaecology of Nepal Medical College Teaching Hospital in one year (January-December 2020). A total of 163 Pap smear examination were included in study. Specimen were stained using conventional Papanicolaou method. After staining, slides were examined under the light microscopy. The cytological diagnosis was correlated with the clinical findings. The collected data was analyzed using SPSS software version 16. Mean, Standard deviation, frequencies and percentages were calculated.

Results: A total of 163 cases were evaluated. The mean age of women who underwent Pap smear examination was 37.5±10.5 years. Out of 163 cases, there were 42 cases of *Trichomonas vaginalis*. The prevalence of *Trichomonas vaginalis* was 25.8%. The common age group was 20 to 40 years. Most of the women were symptomatic (64.3%) while rest were asymptomatic (35.7%). Per vaginal discharge (35.7%) was the most common complain followed by vulval itching (16.7%).

Conclusions: *Trichomonas vaginalis* are commonly found in reproductive age group presented with clinical manifestations or may be asymptomatic at all too. Vaginal discharge is the commonest presentation.
All cases of Pap smear referred to Department of Pathology with written consent taken by the investigator before pap smear specimen were handed over to department were included in the study except inadequate sample (according to The Bethesda system of reporting cervical cytology 2014) like hemorrhagic smear and patients with previous history of radiotherapy and chemotherapy.

The specimens were then stained by the investigator by using conventional Papanicolaou method. The stained smears were examined under light microscope, Olympus cx23, made in Shanghai, China at low and high-power objectives by the investigator. The collected data was analyzed using SPSS software version 16. Categorical variables were presented as frequencies and percentages. Quantitative data was presented as mean with standard deviation.

RESULTS

Out of 163 patients who gave Pap smear examination, 42 patients found to have TV. So, the prevalence of TV was found to be 25.8%. The majority of patients with TV were in age group of 20-40 years – 33 cases (78.6%). Remaining 9 cases (21.4%) were seen in the age group above 40 years of age (Table 1).

### Table 1: Age wise distribution of women with Trichomonas Vaginalis

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Presence of Trichomonas Vaginalis</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-40</td>
<td>33(78.6%)</td>
<td>77(63.6%)</td>
</tr>
<tr>
<td>&gt;40</td>
<td>9(21.4%)</td>
<td>44(36.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>121</td>
</tr>
</tbody>
</table>

Out of 42 cases of TV, symptomatic were 27 (64.3%), 15 cases (35.7%) were asymptomatic. Out of 27 symptomatic cases, majority presented with per vaginal discharge- 15 cases (35.77%) followed by vulval itching – 7 cases (16.7%) (Table 2).

### Table 2: Chief complaints of women with Trichomonas Vaginitis

<table>
<thead>
<tr>
<th>Chief complaints</th>
<th>Presence of Trichomonas Vaginalis</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic</td>
<td>15 (35.7%)</td>
<td>24 (19.8%)</td>
</tr>
<tr>
<td>Per vaginal discharge</td>
<td>15(35.7%)</td>
<td>40 (33%)</td>
</tr>
<tr>
<td>Vulval itching</td>
<td>7(16.7%)</td>
<td>18(14.9%)</td>
</tr>
<tr>
<td>Others</td>
<td>5(11.9%)</td>
<td>39(32.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>121</td>
</tr>
</tbody>
</table>

DISCUSSION

Pap smear is a cheap, convenient screening test for cervical cancer. It is usually recommended for women of age 20-65 years. It also detects microorganisms which are responsible for uterine infections and vaginitis that may lead to complications if not treated on time. *T vaginalis* is an anaerobic flagellated protozoan, accounting for the one of the major cause of vaginitis. In this prospective study, we tried to study clinical manifestations of patients with TV.

The prevalence of TV was 25.8% according to our study. Study done by Malkappa et al showed similar prevalence of TV which was 26%. Prevalence was 48% in study done by Ijome et al which was much more higher than our finding. In contrary to our result, prevalence was 12.6%, 8.9% and 6.7% in study conducted by Fule et al, Kalantari et al and Pathak et al. However, prevalence was 2.4% and 2.6% in study done by Mahur et al and Bhargava et al which was much lower than our study. Reason due to such variation in prevalence of TV may be due to inadequate pap smear examination in certain regions. Women might feel hesitation for gynaecological consultation or might be due to improper health services like inadequate hospitals and doctors.

*T vaginalis* was found to be more common in age group of 20-40 years accounting for total of 78.6%. Similar findings was also found in study conducted by Bhargava et al, Pathak et al, Mahur et al and Fule et al. Reason for the high prevalence rate of T vaginalis in this age group may be due to higher sexual activity in women of this age group. However, study conducted by Momenti et al showed prevalence of *T vaginalis* was higher in women aged more than 50 years accounting for 34% followed by 30% in 30-40 years whereas in our study only 21.4% were above 40 years. Similarly, study conducted by Stemmer et al and Depuydt et al also showed prevalence of infection was higher in women above 40 years. Reasons for high prevalence of *T vaginalis* in women in this age group may be due to proper hygienic behaviour and safer sexual practices in women of younger age groups and lack of education and ignorance in older age groups.

Present study showed 64.3% of patients were symptomatic and 35.7% were asymptomatic. In a study conducted by Fule et al, out of 156 women 12.2% had TV and all were symptomatic. Asymptomatic cases as high as 50% were present in study done by Hook et al and Kalantari et al. Majority of patients of TV were asymptomatic in a study done by Sutton et al. Reasons due to variation in clinical presentations may be due to hesitation and awkwardness in giving proper history to the doctor.

In this study per vaginal discharge was the most consistent complaint of majority of women accounting for 35.7% followed by vulval itching. Complaints like dyspareunia, lower abdominal pain and vaginal discomfort were present in minority of cases. Study done by Fule et al concluded per vaginal discharge and vulval itching were the main and consistent symptoms. 76% women complained of per vaginal discharge in study done by Lazenby et al.

This study was conducted as a single centre. Hence, it may not represent the actual prevalence of our country. Moreover, we had not taken those cases that were not satisfactory for evaluation and had history of radiotherapy or chemotherapy for cervical cancer. We had limited time frame which was
again hampered by COVID-19 pandemic.

**CONCLUSION**

TV are more commonly seen in women of reproductive age groups. There are symptomatic presentations as well as asymptomatic cases too. Thus, it is important to screen all the women of reproductive age group irrespective of clinical presentations.

**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

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**REFERENCES:**


