Trichomoniasis: Is it always sexually transmitted?

Sir,

Vaginal discharge is a common complaint of women of childbearing age. Bacterial vaginosis, candidiasis and trichomoniasis are the three main causes of vaginitis. Sexual intercourse is believed to be the most common cause of transmission of trichomoniasis, but nonvenereal transmission of trichomonas can occur very rarely.[1]

A 67-year-old female came to the hospital with complaints of vaginal discharge. A cervical smear was taken and stained with Papanicolaou stain. The smear showed sheets of superficial and intermediate squamous cells with numerous pale grey, round to pear-shaped organisms with pale vesicular eccentric nuclei [Figure 1a] and intracytoplasmic faint red granules [Figure 1a, inset]. Some of the organisms were seen adjacent to the squamous cells. Many cannon balls formed by adherence of neutrophils to the squamous cells were seen [Figure 1b]. Lactobacilli were absent. A diagnosis of trichomoniasis was suggested.

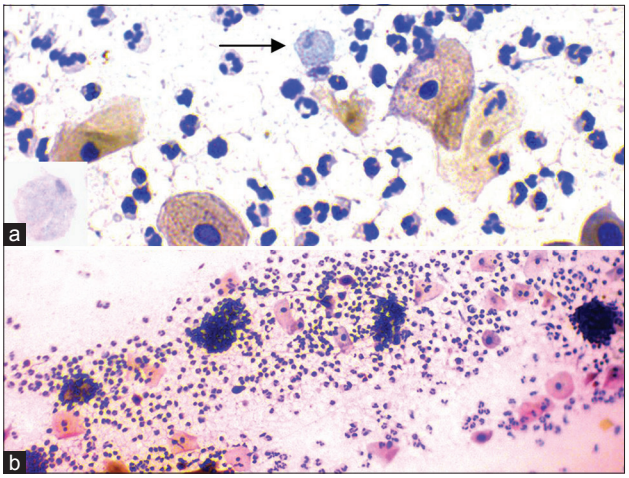

Figure 1: (a) Pear-shaped trichomonas organism in between the squamous cells (Papanicolaou stain, ×400) (a Inset). Trichomonas showing intracytoplasmic granules (Papanicolaou stain, ×1000). (b) Cannon balls with neutrophils adhering to the squamous cells (Papanicolaou stain, ×100)

Trichomoniasis is caused by an anaerobic flagellate protozoan, *Trichomonas vaginalis*. This disease is more common at the period of greatest sexual activity. It was always believed to be a sexually transmitted disease. But, an extensive literature search showed that nonsexual transmission of trichomonas can occur through fomites like towels and toilet seats and from swimming pools.[2] In a cross-sectional study in Zambia, adolescent virgin girls showed a high prevalence of trichomoniasis, the reason for which was found to be sharing of bathing water.[1] Two children aged less than 12 years got the infection from their mother by sharing bath towels.[3] In our case, although the patient denies sexual activity, she may have been sexually active and did not report it, and the trichomonas may have indeed been transmitted sexually.

The normal pH of the vagina is 3.8-4.2, but, in the presence of trichomoniasis, it is greater than 5.0, which is crucial in the pathogenesis of trichomoniasis. The production of cell-detaching factors released by the parasite is found to decrease in the presence of estrogen. This is thought to be the reason for aggravation of the disease at the time of menses, when the estrogen levels are lowest.[4] During the postmenopausal period, the estrogen levels are lower and the vagina becomes more alkaline, favoring the growth of trichomoniasis. Survey reports of a team of researchers of the John Hopkins University were presented at the 19th Biennial Conference of the International Society for Sexually Transmitted Diseases Research. Charlotte Gaydos, the study investigator, said that women aged 50 years and older had the highest trichomonas infection rate in their study.[5] It was inferred that women of the older age group are never tested or diagnosed for trichomonas, and majority of the patients go untreated.

In conclusion, there are reports to support nonvenereal transmission of trichomonas. But, further large-scale epidemiologic studies are needed to confirm this fact. This should be borne in mind when sexually inactive older women present with vaginal discharge. Older postmenopausal women are prone to the trichomonas organism because of the change in their vaginal acidity and estrogen deficiency. Trichomonas should be ruled out as a possible cause of abnormal vaginal discharge among nonsexually active older women who are considered low risk. Testing for trichomonas should be considered in conjunction with other tests for bacterial vaginosis, candidiasis, etc.

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