

# THE INCREASED PREVALENCE OF *TRICHOMONAS VAGINALIS* IN A SCENARIO OF CERVICAL CANCER SCREENING WITHOUT CYTOLOGY

## *O AUMENTO DA PREVALÊNCIA DE TRICHOMONAS VAGINALIS EM UM CENÁRIO DE TRIAGEM DE CÂNCER CERVICAL SEM CITOLOGIA*

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There is currently a strong trend in developed countries and in some developing countries to start adopting the screening of preinvasive lesions of cervical cancer through molecular biology techniques, placing the cytology (Pap smear), in some schemes, as a helper method of positive cases screening. In other flowcharts, cytology is no longer used, and the positive cases for human papillomavirus (HPV) are subjected to triage in other ways (such as HPV genotyping), or forwarded straight to colposcopy<sup>(1)</sup>.

Meanwhile, infection with *Trichomonas vaginalis* (TV), that mostly has no symptoms and is considered the most common curable sexually transmitted infection (STI) around the world<sup>(2)</sup>, is not screened, being the conventional or liquid base Pap smear a tool for the diagnosis, even acknowledging a sensitivity around 50%<sup>(3)</sup>.

Due to the concern of an increase in misdiagnosis and not treatment of this infection, with the replacement of Pap smear by molecular biology in cervical cancer screening, Hui *et al.*<sup>(4)</sup> carried out a study taking into account the current screening program in Australia, which uses DNA-HPV screening and cytology tracing. Considering the hypothesis that by the new way of screening for cervical cancer with DNA-HPV, with an increased interval of the screening and that only HPV-positive cases will be submitted to cytology, there will be as a result an increasing *T. vaginalis* prevalence. The authors have developed a mathematical model to describe the transmission of *T. vaginalis* in the general population and created three scenarios for the study:

1. DNA-HPV screening;
2. Pap smear screening;
3. combination of scenarios 1 and 2.

In the mentioned study, the authors assume that, “although there is no robust estimates of TV prevalence in urban Australia, limited published data suggest that it is around 0.4% or less”<sup>(5,6)</sup>. It was thus possible to observe that the screening program change in that country will result in an increase of more than seven times

(from 0.4 to 2.8%) in the prevalence of *T. vaginalis* in 20 years if no additional measures are taken for this diagnosis and if there is no fall in the prevalence of high-risk HPV. If the prevalence of high-risk HPV continues to fall as the result of HPV vaccination, the TV prevalence may reach 3%.

It is clear that there is a worldwide increase in the incidence of trichomoniasis, particularly in developing countries. Precisely in these countries, the only tools for the parasite diagnosis are cervicovaginal content scanning microscopy for fresh analysis (unfortunately less and less used in medical practice) and stained cytology (Papanicolaou), with sensitivity of 60 and 50%, respectively<sup>(3)</sup>. Studies such as that by Hui *et al.*<sup>(4)</sup> demonstrate one of the side effects of the change of public health strategies with major impact and that should be taken into account in the planning of women’s health care.

The low diagnosis and consequent low treatment of genital trichomoniasis, the most prevalent STI in the world, strengthen vaginal microbiome alterations and facilitate the acquisition of other infections, especially human immunodeficiency virus (HIV)<sup>(7)</sup>.

Specifically in Brazil, we have few statistical data regarding trichomoniasis. Isolated studies have shown the prevalence of 2.6%, in the fresh test, up to 16% in the culture of reproductive age women<sup>(8)</sup> — much higher than that of Australia, and therefore more worrying.

The use of molecular biology in the screening of the etiologic agent of cervical cancer (HPV) by public and private health programs in countries that have decided to incorporate this methodology may be a great ally for screening other STIs, added to the joint research of *Chlamydia trachomatis*, *Neisseria gonorrhoeae* and *T. vaginalis*.

### Conflict of interests

The authors declare no conflict of interests.

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Received on: 12/02/2017

Approved on: 02/03/2018