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## Background

The Ciliocytophthoria occurs in the glandular epithelium/cylindrical ciliated cells, which are found in the respiratory and gynaecological systems. Although this phenomenon is considered rare in both systems, it is more unusual in the gynaecological system. Of the 5781 cases analysed at the centre in 2006, only one case was diagnosed as Ciliocytophthoria. In 1975, Kobold-Wolterbeek and Beyer-Boon observed the cervical smears of 18 000 women during a period of a year and a half, during which time a total of 32 cases of Ciliocytophthoria were found.<sup>1</sup>

This phenomenon consists in the separation of the cylindrical cells resulting in the formation of a non nucleus portion - terminal plate with cilia - and a nucleus portion with granular cytoplasm containing eosinophilia inclusions.<sup>2</sup> The relationship between Ciliocytophthoria and any disease or tumour in the female genital tract is unknown.<sup>3</sup>

## Clinical Case

One case of Ciliocytophthoria was diagnosed at this hospital, in a young girl of 19 years old. The cervical smear was taken at 25<sup>th</sup> January 2006 with the last menstruation occurring a month before. The patient did not use oral contraceptive methods and the gynaecological exam showed the neck of the uterus as a red opening area.



Figure 1 - Cytological features related to Ciliocytophthoria ( 400x )

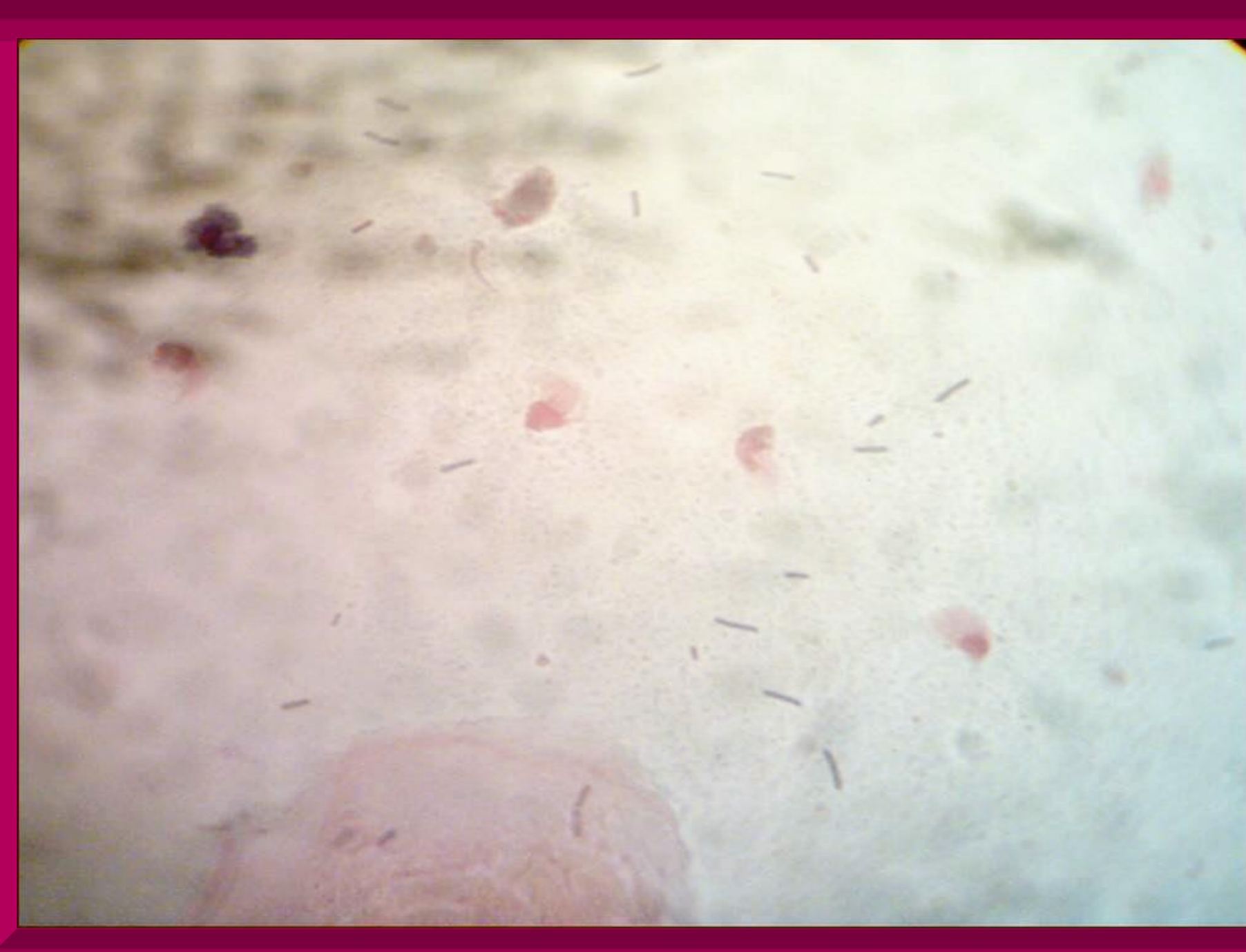


Figure 2 - Cytological features related to Ciliocytophthoria ( 400x )

## Diagnoses

The screening revealed an absence of intraepithelial lesion or malignant neoplasm, with cytological findings related to Ciliocytophthoria (Figures 1 and 2), presence of fungus compatible with *Candida albicans* and inflammation.

## Conclusion

Judging from the diagnoses of the aforementioned clinical case, it is not possible to establish a relationship between the clinical data and the presence of Ciliocytophthoria.

Kobold-Wolterbeek and Beyer-Boon, initially considered that the tufts found were in fact parasites, however, due to the absence of nucleus this assumption was rejected. They then tried to establish a correlation between Ciliocytophthoria and certain clinical data (age, oral contraception, day of cycle, abnormalities of the uterus neck). Although they were unable to find a cause, they determined the decisive factors for the detection of Ciliocytophthoria, which are age, method of contraception, the experience of the technician and the time available to perform the screening.

In comparison to the Ciliocytophthoria, which occurs in the respiratory system, authors such as Papanicolau <sup>4</sup> and Naib et al <sup>5</sup> have suggested that this phenomenon was caused by viral infections (Figure 3)<sup>6</sup> in the bronchial epithelium, with the former establishing an association with Adenovirus and the latter with Parainfluenza virus in children.

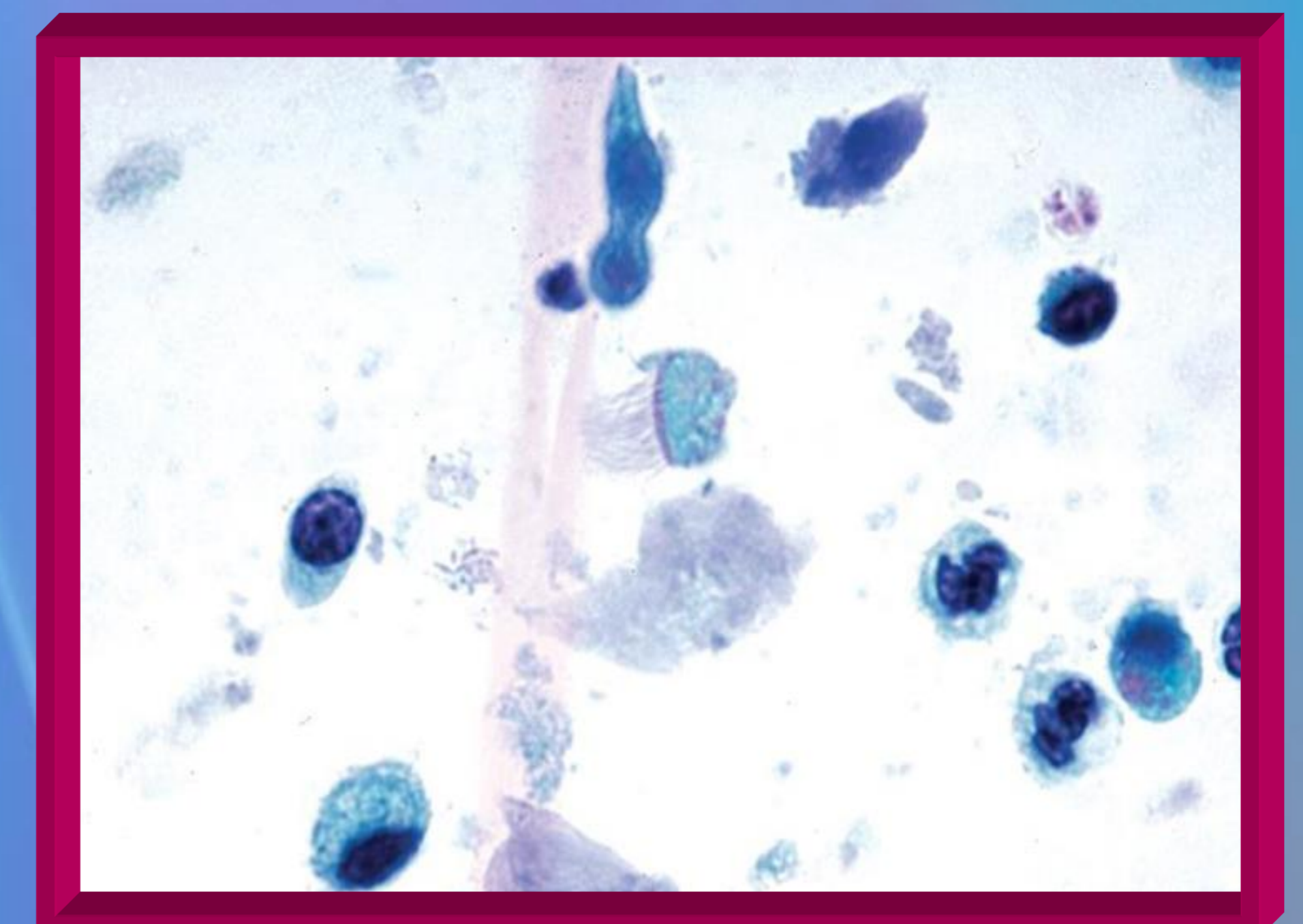


Figure 3 - Cytological features of viral infection (1000X)

## Bibliographical References

1. Kobold-Wolterbeek ACM, Beyer-Boon ME. Ciliocytophthoria in cervical cytology. Acta Cytol. 1975; 19(3):89-91
2. Koss LG, Melamed MR. Koss' Diagnostic Cytoplogy and its histopathologic bases Volume 1. 5<sup>a</sup> ed. Philadelphia: Lippincott Williams & Wilkins; 2006
3. Clochuy YP. Ciliocytophthoria in the cervical smear. Geburtshilfe Frauenheilkd [internet periodic]. 1978 Mar [access in 2007 Mar 1];38(3):[aproximately 2 p.]. Available in [http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=640367&dopt=Abstract](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=640367&dopt=Abstract)
4. Papanicolau GN. Degenerative changes in ciliated cells exfoliating from bronchial epithelium as cytologic criterion in diagnosis of diseases of lung. NY state J Med. 1956; 56:2647-2650.
5. Naib ZM, Stewart JA, Dowdle WR, et al. Cytological features of viral respiratory tract infection. Acta cytol. 1968; 12:162-171
6. Font: Lippincott Williams & Wilkins, 2006