

Is *Haemophilus* sp. a pathogenic species to consider in the clinical entity of urethritis?

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Introduction: *Haemophilus* sp. is a microorganism that colonizes the upper respiratory tract and the genital tract, and can behave as an opportunistic pathogen. There are two main species: *H. influenzae* (Hi) and *H. parainfluenzae* (Hp). Although they are described as causing urethritis and various clinical entities of genital infection; it is complex to establish their pathogenic value in urethral samples, when they are isolated in the context of mixed microbiotas.

Objective: To evaluate the prevalence of *H. influenzae* and *H. parainfluenzae*, as well as their clinical value in urethral exudate samples received throughout 2023 at the Terrassa Analytics Center (CatLab).

Methodology: The 176 samples received were inoculated in a standard bacteriological culture for this type of sample (chocolate agar and Thayer-martin (BD[®])) and processed by multiplex real-time PCR Allplex[™] STI Essential Assay for the detection of *N. gonorrhoeae*, *C. trachomatis*, *M. genitalium*, *T. vaginalis*, *U. parvum* and *U. urealyticum*. The clinical histories of the patients included in the study were reviewed to determine the clinical value of *Haemophilus* sp. and the prescription of antibiotic treatment in case was necessary.

Results: 7 Hi and 43 Hp were isolated. 3/7 Hi (43%) and 25/43 Hp (58%) were considered as causative agents of urethritis. Prevailing criteria were the absence of other bacteria detected by PCR, their greater quantification in culture, and the observation of leukocytes in Gram staining. In 14/28 (50%) had co-detection of pathogens by PCR (Table 1), being the most frequent *C. trachomatis*. Only 8/14 of those with *Haemophilus* sp. were reported, receiving targeted treatment for it (amoxicillin, amoxicillin-clavulanate or levofloxacin) besides common urethritis's antibiotics. In our study, no recurrences were observed, therefore it seems that empirical and targeted coverage have been effective.

Table 1.- Coinfection (reported /isolated)

	<i>H.influenzae</i>	<i>H.parainfluenzae</i>
<i>N.gonorrhoeae</i>	1*	0/2
<i>C.trachomatis</i>	0	5/8
<i>M.genitalium</i>	0	2/3
<i>M.hominis</i>	0	0
<i>T.vaginalis</i>	0	0
<i>U.urealyticum</i>	0	0
<i>U.parvum</i>	0	0

**N.gonorrhoeae* was not recovered in conventional culture.

Conclusions: There is still controversy regarding the pathogenic value of these species at the genital level, due to their isolation in non-pathological samples (without leukocytes or associated symptoms) and in those where other pathogens with more literature has already been identified. It is necessary making out more studies to analyze the relationship between the increase in their presence and their pathogenic role, in addition to the impact on their sensitivity pattern in the treatment of these infections.