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Mollicutes in vaginal microbiology: *Mycoplasma hominis, Ureaplasma urealyticum, Ureaplasma parvum and Mycoplasma genitalium*

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Abstract

Mycoplasma hominis was isolated in 1937 from the human genital tract, followed 17 years later by *Ureaplasma urealyticum* and 27 years after that by *M. genitalium.* The first two proved relatively easy to culture but the latter required a polymerase chain reaction assay for further studies. In sexually mature women, *M. hominis* may be found in the vagina/cervix of about 20-50%, ureaplasmas in 40-80% and *M. genitalium* in 0-5%. Some heterogeneity has been found among strains of all these species, sufficient to divide ureaplasmas into two species, namely *U. urealyticum* and *U. parvum*. Studies in female mice show that sex hormones have a profound influence on colonization, multiplication and persistence of mycoplasmas/ureaplasmas in the genital tract and provoke the question, unanswered, of whether there is such an effect in the human tract. In women, there is no evidence that any of the mycoplasmal species stimulate an inflammatory vaginitis. *M. hominis* organisms increase hugely in number in the case of bacterial vaginosis (BV), and to a lesser extent so do ureaplasmas. Despite this, they have not been incriminated as a sole cause of BV. Evidence for the involvement of *M. genitalium* remains controversial. The strong association of BV with preterm birth raises the possibility that the genital mycoplasmas might play a part, but assurance that any do will be difficult to obtain. Detailed examination of the vaginal microbiome has not yet provided an answer.

Keywords: Mycoplasma hominis; Ureaplasma species; Mycoplasma genitalium;
Vaginitis; Bacterial vaginosis, Vaginal microbiome