Title: Detection of *Mycoplasma hominis* and *M. genitalium* by qPCR in Brazilian women with endomeriosis.

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Abstract:

Endometriosis is a gynecologic pathology defined by the presence of uterine endometrium, in places other than physiologically appropriate. Considered a multifactorial disease, different theories try to explain its etiology. In this context, the microbial participation is questioned as a co-factor. *Mycoplasma hominis* and *Mycoplasma genitalium* has been strongly related to human urogenital infections and infertility. Thus, the aim of this study was to detect these microbes and associate the findings with the endometriosis development. Endocervical swab samples from 46 women with endometriosis (case) or without endometriosis (control) were studied. The disease stage of each woman was scored from I to IV based on the American Society for Reproductive Medicine (ASRM) mentioned in 1996. Samples were submitted to the quantitative PCR (Taqman®) assay to detect the mentioned mycoplasma. The results were analyzed in SPSS 16.0 version to obtain the odds ratio (OR). The prevalence of *M. hominis* and *M. genitalium* were 56.5% (26/46) and 37.0% (17/46) respectively. Mycoplasma co-infection was observed in 32.6% (15/46) of samples. There was a significantly association of risk to the co-infection between species (OR 12.27, 95% IC 2.34 – 64.23, p = 0.001). Association between infection with *M. hominis* (p = 0.948) or *M. genitalium* (p = 0.307) and endometriosis stage was not observed in the studied women. Likewise, there was no association between the prevalence of infection for *M. hominis* (p = 0.121) and *M. genitalium* (p = 0.683) and groups case/control singly. However, a statistical significance was found when compared the infection risk for any mycoplasmas and the development of endometriosis (OR 3.82, 95% IC 0.96 – 14.07, p = 0.05). Our findings confirm the higher risk of co-infection described in literature and suggest a possible association between genital infection and endometriosis.

Keywords: Endometriosis, Mycoplasma, qPCR.

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