Endometriosis and microbiome: many questions for still few responses.

Dear Colleagues,

Endometriosis is one of the most common gynecological chronic inflammatory diseases and is characterized by lesions of endometrium-like tissue in various sites within or outside the pelvis. Its etiology remains ambiguous and not yet completely defined. Nowadays, different studies have found a relevant correlation between endometriosis and microbiome. The alterations of microbiome are related to different inflammatory diseases and there are various types of bacteria frequently found in endometriosis lesions. An increased presence of Proteobacteria, Enterobacteriaceae, Streptococcus spp. and Escherichia coli across various microbiome sites appears to be associated with endometriosis. Moreover, although an association with the phylum Firmicutes and the genus Gardnerella seems concrete, studies are lacking. These data are based on dysregulation of the immune system derived from microbiome, which would favor the development of endometriosis. Indeed, the microbiome could stimulate the immune response through its interaction with Toll-like receptors. On the whole, by investigating the correlation between microorganisms and endometriosis, microbiome could be used in the next future as therapeutic target.

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