

THE INFLUENCE OF ENDOMETRIAL IMMUNE STATUS ON FERTILITY

Burac Mihaela, Friptu Valentin, Corolcova Natalia

Universitatea de Stat de Medicină și Farmacie „Nicolae Testemițanu”, Disciplina de obstetrică. ginecologie și reproducere umană, Chișinău, Republica Moldova

Introduction. The endometrial immune axis is the elucidation of major problems in female reproductive health, especially in infertility. Current research has identified cytokines as molecular markers responsible for the tolerance and immunity of the female reproductive tract.

Purpose. Evaluation of pro- and anti-inflammatory cytokine levels in endometrial fluid in patients with primary infertility.

Material and methods. A prospective cohort study was performed, which included 96 patients divided into study group (L1) - 48 patients with primary infertility and control group (L0) - 48 fertile patients. The endometrial fluid was aspirated with the Pipelle suction curette. Statistical analysis was performed using SPSS 20 and Microsoft Excel 2016.

Results. The mean age in the study group was 29.0 ± 4.58 and in the control group 29.2 ± 4.29 ($p = 0.801$).

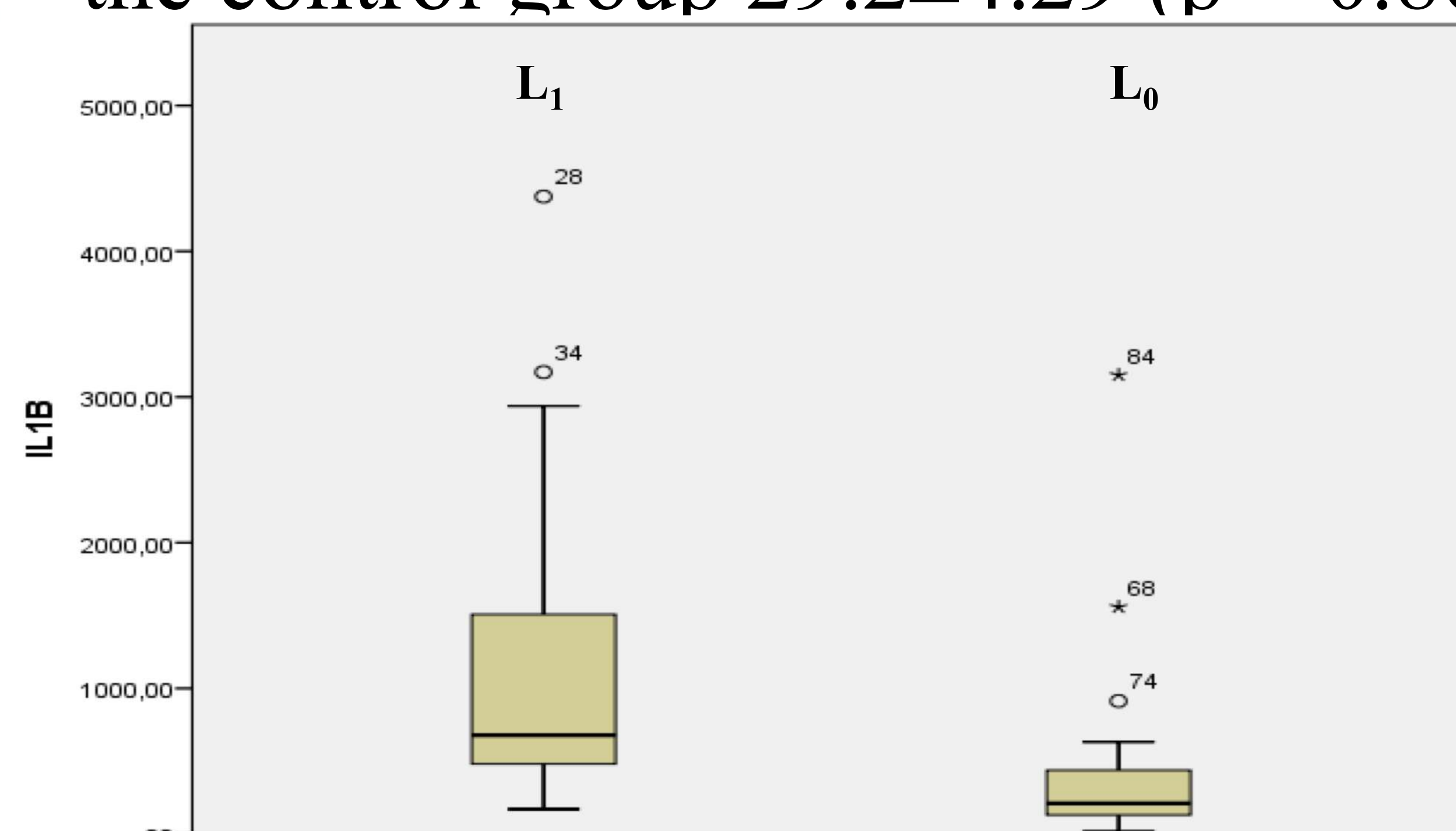


Fig. 1. Levels of IL1B in the endometrial fluid.

The level of interleukin IL1B was considerably increased in the study group L₁ with an average of 1044.67 ± 125.79 pg/ml and in the control group L₀ it was 354.32 ± 70.98 pg/ml, $p < 0.001$ (Fig.1).

The mean level of anti-inflammatory interleukin IL10 in L₁ was 186.06 ± 30.71 pg/ml and in L₀ 186.93 ± 34.26 pg/ml, $p = 0.897$ (Fig.2).

The results of the histological investigation of endometrial biopsies showed that in both groups there were inflammatory histological changes in the endometrium, with an apparent prevalence in the group of patients with primary infertility in 38 (79.2%) cases compared to the group of fertile patients 15 (31.3%) $\chi^2 = 22.238$; $p < 0.001$.

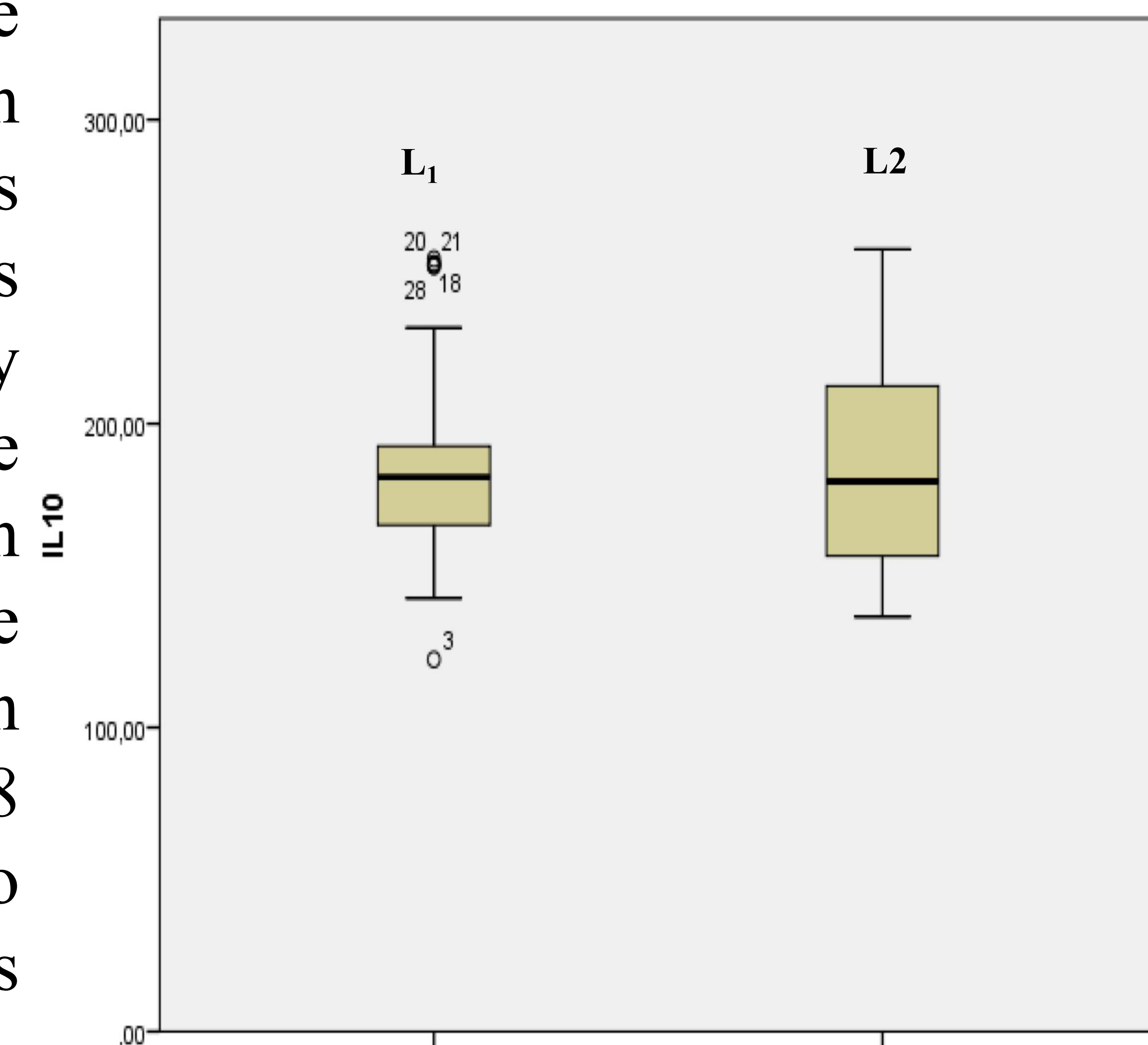


Fig. 2. Levels of IL10 in the endometrial fluid.

Conclusions

Endometrial immune status in patients with primary infertility is characterized by a marked predominance of the Th1 cytokine profile, supporting significant levels of proinflammatory cytokines, which directly influences the histological aspect of the endometrium.

Keywords. Primary infertility, immunity, microbiome, endometrium, proinflammatory cytokines