# First glimpse of endometrial microbiota during pregnancy

February 27 2020

Carlos Simon. Credit: Asociación RUVID

A team of Valencia University (UV), in collaboration with the Igenomix Foundation and the INCLIVA, has managed to access the human endometrial microbiota during early pregnancy. The study shows that the uterus is dominated by Lactobacillus and provides the first profile of a pregnant woman's microbiota.

The *American Journal of Obstetrics & Gynecology* published "The first glimpse of the endometrial microbiota in early pregnancy," which reveals, for the first time, the endometrial microbiota during early pregnancy, and its evolution as it led to the birth of a healthy baby.

"This could be the starting point to learn the interaction between the microbes and the beginning of human life," explain project head Carlos Simón, professor in paediatrics, obstetrics and gynaecology for the UV, and Inmaculada Moreno, researcher for the Igenomix Foundation and first author of the article.

Humans are dependent on commensal bacteria, which are part of the body and contribute to healthy vital functions. In the body, there are 10 times more microorganisms than body cells. Until recently, it was believed that the uterus was a sterile cavity that bacteria could not reach, as it had to protect the foetus during pregnancy.

The microbial profile of the endometrium, the mucosal layer that lines the uterine cavity, has now been described. "We know that the endometrium is populated by two types of microbial profiles: the Lactobacillus-dominant (LD) population and the non-Lactobacillus-

dominant (NLD) population, because there are other pathogenic bacteria. The latter is linked to a lower rate of pregnancies and a higher rate of abortions," explains Inmaculada Moreno. "However, we did not know the relevance of this endometrial flora during pregnancy, as this type of study had always been conducted at moments prior to gestation."

Carlos Simón says, "A casual finding allowed us to study her endometrial microbiota when the patient had been pregnant for four weeks. That is when we happened to obtain the first microbial profile of a pregnant women whose gestation process was successful."

"This information allows us to learn something more about the beginning of life, as it is this microbial surrounding where the pregnancy took place successfully. This result is now the starting point for future studies that will attempt to determine how to prepare the endometrial flora to achieve reproductive success," says Inmaculada Moreno.

**More information:** Inmaculada Moreno et al. The first glimpse of the endometrial microbiota in early pregnancy, *American Journal of Obstetrics and Gynecology* (2020). DOI: 10.1016/j.ajog.2020.01.031

Provided by Asociacion RUVID