

## PROFILE IN WOMEN WITH REPRODUCTIVE FAILURE IN ARGENTINA

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### INTRODUCTION:

Endometrial dysbioses are associated with inflammatory states of the endometrium, and are related to lower implantation, pregnancy and live birth rates. Therefore, in order to improve the clinical management of patients, the importance of evaluating the endometrial microbiome profile, including the presence of certain pathogenic microorganisms, in patients with specific clinical indications is highlighted.

### OBJECTIVES:

To characterize the endometrial microbiome in women with implantation failure in Argentina.

### PARTICIPANTS AND METHODOLOGY:

Endometrial biopsy samples from 64 Argentine patients (mean age 41 years) with 1 to 3 implantation failures were analyzed between 02/2023 and 06/2024. Samples were analyzed by RT- qPCR with detection probes for a panel of microorganisms associated with reproductive outcome, including viruses and fungi. Profiles were classified as eubiotic or dysbiotic based on the relative abundance of the *Lactobacillus* genus ( $\geq 90\%$ ) and as pathogenic or nonpathogenic based on the detection of genital infection-causing agents. Comparative data were analyzed with the chi-square test.

### RESULTS:

62.5% of patients presented dysbiosis, with an average of 35.31% of *Lactobacillus*. 15.63% of these cases presented some pathogen, with a higher presence of opportunistic bacteria such as *Gardnerella vaginalis* being observed, although not significantly. , *Streptococcus* spp , *Fusobacterium* spp . and *Actinomyces* spp . ( $P > 0.05$ ). In the case of patients with a eubiotic profile (37.5%), 9.38% had some pathogen (Table 1).

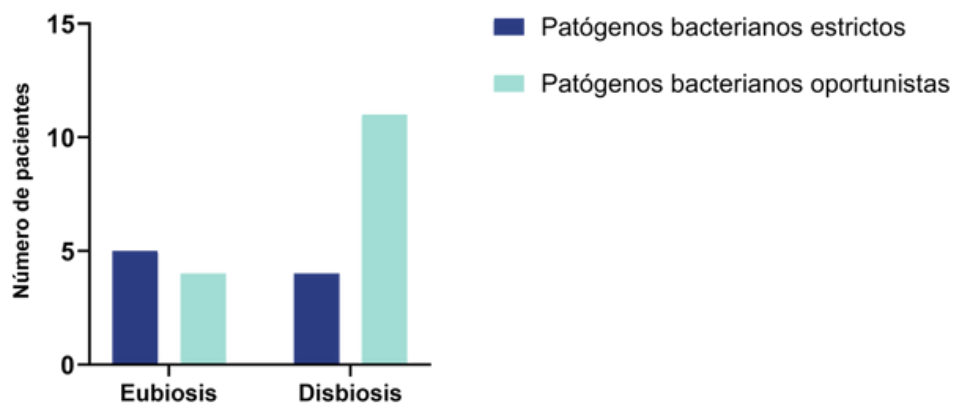
Regarding the detection of strict pathogens, a higher trend was observed in patients with eubiosis , while opportunistic pathogens were associated to a greater extent with dysbiosis profiles ( $P > 0.05$ ). (Figure 1)

### CONCLUSIONS:

Most patients with implantation failure showed alterations in their endometrial microbiome. The clinical application of these studies could facilitate the development of therapeutic approaches focused on restoring endometrial eubiosis prior to an assisted reproduction procedure.

|                      | N  | %       |
|----------------------|----|---------|
| <b>TOTAL</b>         | 64 | 100,00% |
| <b>EUBIOSIS</b>      | 24 | 37,50%  |
| <i>No patogénica</i> | 18 | 28,13%  |
| <i>Patogénica</i>    | 6  | 9,38%   |
| <b>DISBIOSIS</b>     | 40 | 62,50%  |
| <i>No patogénica</i> | 30 | 46,88%  |
| <i>Patogénica</i>    | 10 | 15,63%  |

**TABLE 1.** GENERAL PROFILE OF THE ENDOMETRIAL MICROBIOME IN ARGENTINE WOMEN WITH IMPLANTATION FAILURE.



**FIGURE 1.** DETECTION OF BACTERIAL PATHOGENS ACCORDING TO THE EQUILIBRIUM STATE OF THE ENDOMETRIAL MICROBIOME IN ARGENTINE WOMEN.

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