ALICE Test: A Comprehensive Analysis of Chronic Endometrial Infections

The ALICE test (Analysis of Infectious Chronic Endometritis) is a specialized diagnostic tool designed to detect bacterial infections in the endometrial lining that may contribute to implantation failure and pregnancy loss. Chronic endometritis is a low-grade, persistent inflammation of the uterus that can disrupt embryo implantation, often without causing noticeable symptoms. The ALICE test identifies specific bacteria linked to this condition, helping doctors determine the most effective treatment to restore a healthy uterine environment.

What Does the ALICE Test Measure?

The ALICE test focuses on identifying pathogenic bacteria that are commonly associated with chronic endometritis. Unlike traditional cultures that may fail to detect certain infections, ALICE uses advanced molecular techniques to analyze the bacterial DNA present in the endometrium.

Key aspects of the test include:

Detection of Pathogenic Bacteria – The test identifies harmful bacteria that are known to cause chronic endometrial infections. Some of the most commonly detected pathogens include:

- **Enterococcus faecalis**
- **Escherichia coli (E. coli)**
- **Streptococcus species**
- **Mycoplasma**
- **Ureaplasma**
- **Gardnerella vaginalis**

Molecular Analysis for Higher Sensitivity – Unlike conventional cultures, ALICE directly analyses bacterial DNA, allowing it to detect low levels of infection that might otherwise go unnoticed.

Assessment of Chronic Endometrial Inflammation – By identifying specific bacteria, ALICE helps diagnose chronic low-grade inflammation in the uterus, which may negatively affect implantation.

Costs

ALICE & EMMA	€990
EndomeTRIO (ERA + ALICE + EMMA)	€1800

How is the ALICE Test Performed?

Endometrial Sample Collection:

- A small biopsy of the uterine lining is taken, typically between days 15-25 of the menstrual cycle (during the luteal phase).
- The procedure is quick and minimally invasive, often done in a doctor's office without anesthesia.

Molecular Testing:

- The biopsy sample is analysed using polymerase chain reaction (PCR) and Next-Generation Sequencing (NGS) to detect bacterial DNA with high accuracy and sensitivity.

Results & Interpretation:

- If harmful bacteria are present, a personalized treatment plan (typically antibiotics and/or probiotics) is recommended to restore a healthy endometrial environment.
- The test may also be combined with EMMA (Endometrial Microbiome Analysis) to evaluate both pathogenic and beneficial bacteria in the uterus.

Who Should Consider This Test?

ALICE is recommended for women who:

- Have a history of chronic endometritis.
- Have experienced repeated implantation failure in IVF.
- Have suffered recurrent miscarriages with no clear cause.
- Have suspected uterine infections but no obvious symptoms.

Why is the ALICE Test Important for Fertility?

A healthy uterine environment is crucial for embryo implantation and a successful pregnancy. If pathogenic bacteria are present, they can cause persistent low-grade inflammation, which may interfere with embryo adhesion and development. Treating chronic endometritis with antibiotics has been shown to increase implantation and pregnancy rates in affected patients.

Currently, there is no single "perfect" diagnostic test. In fact, the medical literature reveals ongoing controversy and a lack of consensus regarding when to use one test over another. In many cases, it may be appropriate to perform multiple tests, as their interpretation greatly depends on the individual clinical context. These tests can provide complementary insights, and the decision to use them should be tailored to each patient's unique history, presentation, and fertility journey.