

## Can Ovarian Ultrasound Predict IVF Success?

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For many years infertility specialists have attempted to find ways that best predict a women's egg quality and number, and her chances of becoming pregnant with fertility treatments like in vitro fertilization (IVF). Commonly used tests include: (1) **antral follicle count (AFC)** as detected by ultrasound, (2) **FSH and estradiol** levels, (3) **anti-müllerian hormone**, (4) **inhibin B**. Sometimes, other tests such as the **clomiphene citrate challenge test** are used. Unfortunately, none of these tests by themselves are 100% reliable predictors of a women's egg quality/number, response to fertility treatment, or ultimately, chances for conceiving a baby.

**Antral follicles** are 3 mm to 10 mm small ovarian follicles that are counted via ultrasound scan on cycle day 3 of a woman's cycle. The **antral follicle count (AFC)** is easy to perform (it requires an ultrasound exam) and tends to be a reliable measurement over the short term. Initially, AFC has been thought to correlate well with a women's egg quality and her chances of pregnancy. However, recently this has become more controversial with the publication of an article by Dr. Albert Hsu and colleagues from Tufts University School of Medicine. Their study adds to our understanding of the relevance of the AFC. These investigators studied 734 patients over 1,049 IVF cycles and attempted to correlate the AFC with response to treatment and pregnancy rates.

The study showed that the AFC predicted a patient's response to treatment quite well. Those with lower AFC tended to produce fewer eggs and had a higher chance of having their IVF cycle cancelled (because of too few eggs) compared to those with normal AFC. However, those women with low AFC that produced enough eggs to make it to an embryo transfer had pregnancy rates and live birth rates that were similar to those with normal AFC. Antral follicle count predicted ovarian response, not embryo quality or pregnancy.

It seems that the best utility of the AFC may be to counsel patients before starting their IVF cycle regarding their chances of having the IVF cycle cancelled. Also, it may assist the doctor in selecting a more aggressive treatment protocol to reduce the likelihood of cycle cancellation.

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