Serum anti-Müllerian hormone as a predictive marker of polycystic ovarian syndrome.

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Source

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Abstract

BACKGROUND:

The anti-Müllerian hormone (AMH) is a dimeric protein secreted by the female ovaries and has two fundamental roles in follicle genesis. It delays the entrance of the primordial follicle into the pool of follicles in growth and diminishes the sensitivity of the ovarian follicle towards follicle-stimulating hormone (FSH). The purpose of this work was to study the AMH (nv 2.0-6.8 ng/mL) as a marker during assisted reproductive technology (ART), in order to identify cases of infertility due to polycystic ovarian syndrome (PCOS). This syndrome affects 10% of women with infertility problems, and a new biological marker could be useful to general practitioners of internal medicine to help generate the suspicion of PCOS so that they can refer the patient to the gynecologist for confirmation.

METHODS:

This study enrolled 236 patients aged 26-46 years undergoing assisted reproductive technology at the Institute for Maternal and Child Health, Trieste, Italy. On the third day of the ovarian cycle, the patients were given doses of AMH, FSH, and luteinizing hormone (LH, in cases of AMH < 2.0-6.8 ng/mL). A control pelvic ultrasound was also carried out.

RESULTS:

We identified 57 patients who were starting in vitro fertilization or embryo transfer with AMH values within the normal range (3.64 ± 1.51 ng/mL), 77 with values below normal (1.38 ± 0.32 ng/mL), and 96 cases with undetectable values of AMH. Six patients had very high AMH levels (10.0 ± 2.28 ng/mL) and, of these, five were found to have PCOS on pelvic ultrasound examination ($P < 0.05$). We also found inverse correlations between AMH levels and age ($r = -0.52$) and between AMH and FSH levels ($r = -0.32$).

CONCLUSION:

In clinical practice it is common to encounter patients who turn to medicine in search of a cure for female infertility. In our experience, AMH two or three times the normal amount (10 ± 2.28 ng/mL), is a good indication of PCOS and infertility.