Introduction

In vitro fertilization (IVF)/intracytoplasmic sperm injection (ICSI) treatment outcome is highly variable and difficult to predict.

Careful evaluation of patients and proper treatment with right techniques are essential for successful outcome. It is important to accurately predict the probability of success of a treatment because of the substantial amount of time, money, and emotion that is invested by patients undergoing infertility treatment.

To obtain satisfactory results, it is necessary to assess ovarian reserve before planning treatment.

When discussing the ovarian reserve, a distinction should be made between two parts of this entity, the quantity of the pool of oocytes as well as the quality of oocytes.

Contemporary markers for ovarian reserve include female age (**Piette et al 1990, Magarelli et al 1996, Sharif et al 1998, Hall et al 1999**), basal follicle-stimulating hormone (FSH) levels (**Balasch et al 1996, Martin et al 1996, Sharif et al 1998, Hall et al 1999, Bancsi et al 2000)**, basal estradiol (E2) levels (**Bukulmez and Arici 2004)** and basal inhibin B levels **(Bancsi et al 1997, Hall et al 1999).**

Ultrasonografic markers as antral follicle count**(AFC) (Nahum et al 2001, Hsieh et al 2001, Bancsi et al 2002, Hendriks et al 2005b)**, ovarian volume **(Sharara and McClamrock 1999**, **Wallace and Kelsey (2004)**, and ovarian stromal blodd flow (**Kupesic and karjak 2002, Kupesic et al 2003**, **Popovic-Todorovic et al 2003)** have also been studied as markers of ovarian reserve**.**

Provocative and dynamic tests such as a gonadotropin releasing hormone (GnRH) agonist test(GAST)**(Padilla et al l990, Winslow et al l99l)** and clomiphene citrate challenge test**(Buyalos et al 1997)** have also been introduced, and more effective parameters are being sought (**Jain et al 2004, Hendriks et al 2005a)**.

However, most studies to date have looked at one test in particular, basal FSH, as a measure of ovarian reserve and IVF outcome.

Day 3 FSH has been used routinely in the setting of IVF. Recently, the clinical utility of this test has been questioned (**Wolff and Taylor, 2004**).

Recently, a potentially new marker was put forward**: the antimüllerian hormone (AMH)** (**Van Rooij 2002).**

Antimüllerian hormone (AMH) is a dimeric glycoprotein made up of two monomers attached to each other by disulfide bonds, and belongs to the transforming growth factor-B superfamily, which acts on tissue growth and differentiation (**Lee at al 1996).**

Sertoli cells in the male produce AMH, which induces the degeneration of the müllerian ducts and provides the normal formation of the male genital system. Sertoli cells secretion of AMH continues for a lifetime, but the significance of AMH in adult male is not known.

Antimüllerian hormone is expressed after birth in the granulosa cells of healthy small growing follicles **(Baarends et al 1995)**. It plays roles in various phases of folliculogenesis, from the primordial to FSH-sensitive follicular stages **(Durlinger et al 2002a**). The AMH serum levels have been shown to correlate strongly with the number of antral follicles (**Gruijters et al 2003**), and it has a relatively stable expression during the menstrual cycle (**Cook et al 2000)**. **Seifer et al. (2002)** found a correlation between AMH serum levels and the number of oocytes retrieved during IVF treatment.

Antimüllerian hormone is by now presented as a good marker of the ovarian reserve **(Visser and Themmen 2005).**