

A Review of Ovarian Stimulation in ART

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● Protocols with GnRH Agonists

Since 1980, the most widely employed gonadotropin based superovulation regimens for ART have utilized adjunctive GnRH agonists. Long, short and ultrashort protocols have been used:

- ❖ **The long or "desensitization" protocol** requires agonist administration for at least 10 to 12 days in order to achieve the suppression of ovarian activity is defined by low circulating levels of estradiol (<30 pg/ml). It seems that when more days of agonist administration are needed in order to achieve ovarian suppression, the outcome of ART is less favorable. When such suppression is obtained HMG or FSH administration is started. The moment of initiation of GnRH agonist therapy can be in the midluteal phase of the preceding cycle (luteal phase protocol) or the beginning of the menstrual cycle (follicular phase protocol).

Advantages: achieving an adequate ovarian response with a low cancelation rate secondary to pituitary suppression.

Disadvantages: a prolonged agonist administration, which is more expensive due to the cost of the agonist itself, and the need for a higher dose of FSH to reach follicular maturity. This is the reason why the dose of LHRH may be decreased or suppressed as soon as the gonadotropins is started (Broekmans 1996).

There are no main differences between the luteal and the follicular phase protocols; initiation of the analog in the luteal phase has the potential risk of giving the peptide in the presence of an early pregnancy, whereas the administration in the follicular phase may produce the formation of follicular cysts (>30 mm diam).

- ❖ **The short protocol.** In the short or "flare-up" protocol, GnRH analog therapy is initiated on the first or second day of menses and FSH is started 2 or 3 days later. This protocol takes advantage of the initial liberation of gonadotropins on the first days of agonist administration, and of the pituitary suppression achieved at the time of follicular aspiration.

Advantage: a lower cost than the long protocol because of the reduction in the number of ampoules of FSH used.

Disadvantage: consequences upon oogenesis. The rate of success of the short protocol is constantly

inferior to the one of long protocol.

❖ **The ultrashort protocol**

The ultrashort protocol limits the agonist administration to 2 or 3 days during the follicular phase: this dose seem enough to achieve suppression of endogenous LH.

The optimum gonadotropin to be used when GnRH agonists are used will be disussed.

Results will be presented. The agonist protocols are today the most efficient in term of pregnancy rates.