Ovarian stimulation strategies in IVF

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Ovarian stimulation is used either for ovulation induction in anovulatory infertility or for superovulation induction for IVF treatment. In all cases, multiple pregnancies and the OHSS must be avoided. Induction of multiple follicular development results in marked changes in the feedback mechanisms. To prevent a premature LH surge during FSH treatment, GnRH analogues are used with no difference in the clinical outcome between agonists and antagonists. Nevertheless, the GnRH antagonists are preferred to the agonists during ovarian stimulation of patients who are at a high risk for the OHSS. Triggering of final follicle maturation with a GnRH agonist instead of HCG reduces the risk of the OHSS. Recent studies have proposed an individualized approach to the ovarian stimulation based on the ovarian reserves. In some ovarian stimulation protocols, serum LH concentrations are markedly suppressed due to the significant reduction in LH secretion from the pituitary. As a result, the luteal phase becomes defective and luteal support is required in the majority of IVF cycles. Finally, mild ovarian stimulation protocols are used less frequently. Nevertheless, their effectiveness is not inferior to that of the conventional protocols, while the incidence of the OHSS is extremely low.

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