**Prediction and prevention of the ovarian hyperstimulation syndrome (OHSS) - an evidence-based approach**

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Ovarian hyperstimulation syndrome (OHSS) is an uncommon but serious iatrogenic complication of ovarian stimulation occurring during the luteal phase or during early pregnancy. It is potentially fatal and is difficult to predict.

Prospective controlled studies have shown that good predictors include young age, the presence of polycystic ovarian syndrome or polycystic ovaries on ultrasound, the measurement of the antral follicular count (AFD), estradiol levels, insulin resistance, ovarian volume or antimullerian hormone (AMH) before starting ovulation induction. Bad predictors include the measurement of body mass index (BMI), genetic predisposition, serum vascular endothelial growth factor (VEGF), von Willebrand factor and perifollicular blood flow.

Similarly, randomized controlled trials (RCTs) have shown that primary prevention (before starting HMG/FSH) can be achieved by giving FSH rather than HMG (without GnRHa), using the step-up rather than the conventional protocol, giving GnRH antagonists rather than agonists (but with a lower LBR), performing IVM rather than IVF and using the sequential rather than the step down protocol. They have also shown that the alternate day protocol is comparable to the conventional protocol and that the sequential protocol is comparable to the step-up protocol, while the superiority of either the step-up compared to step down protocol needs further evaluation.

RCTs have also shown that secondary prevention can be achieved by triggering ovulation with GnRH agonists, metformin administration, intravenous albumin, hydroxyethyl starch, cabergoline (for early OHSS) and laparoscopic ovarian electrocautery. They have also shown that the following approaches are equivocal in preventing OHSS: coasting versus unilateral oocyte aspiration and GnRH antagonists versus coasting, while the following approaches await further evaluation: cancellation of the cycle, coasting, diminishing the dose of HCG, embryo freezing and triggering with GnRHa + embryo freezing.