

1.3 RECENT ADVANCES IN INDUCTION OF OVULATION

HO Pak Chung

Department of Obstetrics and Gynaecology, University of Hong Kong, Hong Kong, China.

Clomiphene citrate is still the first line drug for induction of ovulation in patients with polycystic ovarian syndrome (PCOS). In patients who failed to respond to clomiphene citrate, insulin sensitizers like metformin have been shown to be effective in inducing ovulation. Patients with PCOS usually have high basal levels of serum luteinizing hormone (LH). Down regulation with gonadotrophin releasing hormone (GnRH) agonists has been tried in these women to suppress the serum LH levels before stimulation with gonadotrophins. However, a recent meta-analysis did not show any clear advantage in the routine use of GnRH agonists in these women. New preparations of FSH including recombinant FSH are now available. Although the use of urinary or recombinant FSH has been associated with higher pregnancy rates in treatment with in-vitro fertilization when compared with human menopausal gonadotrophins (hMG), no such advantage has been shown in induction of ovulation in women with PCOS. Chronic low dose step-up protocols have been used for a long time with good results. Recent studies showed that step-down protocols are also effective. Although data are not conclusive, recent studies have raised concerns on the increased risk of ovarian cancers who have previously received fertility drugs. There is also the possibility of decreased implantation rates in women with high levels of serum oestradiol. Therefore, we should confine the use of gonadotrophins to the lowest effective dose and duration.

1.4 IMPORTANCE OF MALE ACCESSORY SEX GLANDS IN FERTILITY

O Wai-sum¹, CHOW P.H.².

Departments of Anatomy, The University of Hong Kong¹ and The Chinese University of Hong Kong², Hong Kong SAR, China

In the golden hamster, the major accessory sex glands (ASG) consist of the ampullary gland, seminal vesicles, dorsolateral prostate, ventral prostate and coagulating gland. Previously, we have observed developmental anomalies during the first half of gestation in embryos sired by males with some (AG or VP) or all ASG removed (TX). These include a delay in oocyte activation during fertilization, entry into the first S-phase, larger nucleolar size and volume at 4-cell stage, lower cell number at 72 h p.c., reduced implantation rate at 122 h p.c. and higher embryonic wastage. Exposure of sperm to secretions of the male accessory sex glands, in particular the ventral prostate, is important for the multiplication of cells during pre- and post-implantation embryonic development. Gas6 protein and up regulation of Gas6 receptor, *Rse*, was found in degenerating embryos sired by TX and VPX males.

Studies on ejaculated sperm from TX male hamsters showed a higher incidence and extent of single and double strand DNA breakage using single cell gel electrophoresis (or Comet) assay compared with the sham-operated control. Incubation of sperm with NADPH showed a dose-response relationship in terms of DNA breakage while ASG secretion was able to protect sperm from oxidative stress.