Trigger shot in assisted reproductive technology (ART). Is it time for change?

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ABSTRACT

Introduction: Our study aimed to determine the trigger medication and dosage for improvement of ART outcomes. **Method:** This retrospective cohort study was undertaken from January 2013 to March 2022 at PIVET Medical Centre, comprising 1,101 autologous antagonist ART cycles, with women aged 20-40 years. The ovarian stimulation protocols were according to the PIVET FSH dosing algorithm and patients were categorized into four groups (rHCG 250 mcg, rHCG 500 mcg, rHCG 750 mcg, Dual trigger - rHCG 500 mcg & Triptorelin 200 mcg). **Results:** The dual trigger regime had the greatest number of oocytes retrieval (11.85 ± 5.54, p<0.0001), and interestingly, GV? retrieval rate was also the highest (2.5 ± 2.6, p<0.001) among the four groups. The group of rHCG 750 mcg was reported to have the significantly lowest number of total oocytes (4.90 ± 4.06) and MII oocytes (3.23 ± 2.33) retrieved. There were no significant differences in fertilization rates observed among the groups (p=0.395). The group of rHCG 750 mcg had the lowest proportion of good-quality blastocysts while the highest good-quality blastocyst rate was shown in the group of rHCG 250 mcg (5.6% vs 41.9%, p<0.0001). The dual trigger group demonstrated the highest clinical pregnancy and live birth rates (85% and 65%, both p<0.001), with the lowest miscarriage rate (23.5%, p=0.013), whilst the group receiving rHCG 500 mcg had the second highest clinical and live birth rate (66.7% and 52.5%). **Conclusion:** Dual trigger is the most effective trigger in ART for optimizing clinical results, albeit not exhibiting the highest blastocyst quality rate.

Endometrial αvβ3 Integrin expression in obese women with polycystic ovarian syndrome (PCOS) following progesterone therapy

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ABSTRACT

Introduction: We aimed to determine the expression of the endometrial αvβ3 Integrin in women with polycystic ovarian syndrome (PCOS) during implantation window following progesterone therapy. **Methods:** A total of 40 participants aged 18-40 years old were recruited. The participants were divided into the obese PCOS, normal-weight PCOS, obese fertile and normal-weight fertile groups. The first blood collection was done before ovulation. Then, daily oral micronised progesterone (Utrogestan 200 mg) was given to the PCOS group for 10 days. The treatment was followed by a second blood collection and endometrial tissue sampling by using a Pipelle de Cornier catheter. In the fertile group, ovulation was confirmed by using ultrasound, and a second blood sample was collected on days 7 to 9 post-ovulation. The serum levels of FSH, LH, DHEA, progesterone and oestradiol were measured in all participants. **Result:** Serum FSH levels were lower in obese women in their follicular phase than in women with normal weight regardless of their PCOS status, whereas serum LH/FSH ratios and DHEA levels were higher in women with PCOS than in women without PCOS. However, endometrial αvβ3 Integrin expression was significantly lower in the obese group either PCOS or the control group. **Conclusions:** Different patterns of hormonal levels and endometrial αvβ3 Integrin expression levels were seen between the studied groups. However, further in-vitro and in-vivo studies are needed to investigate the mechanism underlying the changes in FSH, LH/FSH ratio, DHEA and Hb-EGF expression in PCOS after progesterone treatment.