OPTIMIZING OVARIAN STIMULATION FOR FERTILITY PRESERVATION IN WOMEN WITH CANCER: A "BEFORE AND AFTER" STUDY.

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Abstract Body

Background: Oocyte cryostorage is a well-established procedure for fertility preservation in women with malignancies. The introduction of random start protocols has substantially improved the procedure, allowing to prevent delay in the beginning of oncological treatments. However, there is still the need to optimize these protocols, to make them more patient-friendly and to reduce costs.

Methods: This 'before and after' study compares two time periods (2019 and 2020) corresponding to two different ovarian hyperstimulation regimens. In 2019, women were treated with corifollitropin, recombinant FSH, GnRH antagonists, and GnRH agonists triggering. In 2020, a progestin-primed ovarian stimulation (PPOS) protocol with human menopausal gonadotropin (hMG) and dual trigger was introduced. A sample of pooled follicular fluid to assess steroids concentrations was also collected at oocytes retrieval. Continuous data are reported as median [Interquartile Range].

Results: Overall, 124 women were selected, 46 in 2019 and 78 in 2020. The ratio between rate of mature oocytes retrieved and serum anti-mullerian hormone (AMH, in ng/ml) in the first and second period was 4.0 [2.3-7.1] and 4.0 [2.7-6.8], respectively (p=0.80). The number of ultrasound scans performed was 3 [3-4] and 3 [2-3], respectively (p<0.001). The total costs of the drugs used were 940 € [774-1,096 €] and 520 € [434-564 €], respectively (p<0.001). Follicular fluids testing consistently demonstrated higher levels of aldosterone, 11-Deoxy-Cortisol, testosterone, and lower levels of 17-Hydroxyprogesterone in the second compared to the first time period.

Conclusions: Random start PPOS with hMG and dual trigger represents a valuable alternative for fertility preservation in women with cancer, showing similar efficacy compared to a regimen with GnRH antagonists, and being more friendly and cheaper. Additional evidence is needed to evaluate the clinical relevance of the detected changes in local steroid hormones and to draw inferences on the safety in women with hormone sensitive cancers.