Personalized Embryo Transfer Timing in IVF for Patient with Recurrent Implantation Failure

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ABSTRACT

Introduction: In about 80% of women, implantation usually occurred between days 19-21 of the menstrual cycle. However, 3 in every 10 women have a displaced window of implantation. The Endometrial Receptivity Analysis (ERA) examines gene expression in the endometrium to evaluate whether the endometrium is receptive and predicts a woman's personal window of implantation. The goal with the ERA is to determine the ideal timing for embryo transfer for IVF patients with recurrent implantation failure; thereby decreasing the likelihood of implantation failure. ERA was recently made available in Malaysia since 2018. **Objectives:** In this study we presented TMC Fertility Centre's initial experience of using the ERA, helping IVF patients with previous failed cycles to determine a personalized ET timing. **Methods:** A single-centre retrospective study, including 5 patients (1-6 previous failed frozen embryo transfers, FET with good grade embryos) admitted to our IVF unit for a mock cycle prior to their FET cycle. The mock cycle included an endometrial biopsy for the ERA test. The next FET cycle in the study group was adjusted according to the ERA results. **Results:** The ERA showed that four out of five patients have a shifted implantation window. All four patients were found to be pre-receptive (80%), and only one patient was receptive (20%) at the time of endometrium biopsy. Prior to ERA, total of 25 embryos were transferred in 14 cycles of embryo transfer, and no implantation was recorded from all cycles. Following the recommended transfer timing from ERA, 11 embryos were transferred in 7 time-adjusted cycles of FET, resulted in four clinical pregnancies (80%) and 36% (4/11) implantation rate. Currently 60% patient is having on-going pregnancy. **Conclusions:** Our study showed that patients who had recurrent implantation failure with good grade embryos in IVF might have a shifted implantation window. A personalized embryo transfer based on ERA may help improve these patients' chance of having a successful implantation.

Spontaneous Distal Ileum Perforation following Bleomycin, Etoposide and Cisplatin Chemotherapy for Granulosa Cell Tumour of Bilateral Ovaries Stage IC: A Case Report

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ABSTRACT

Background: Granulosa cell tumours (GCT) are rare and role of adjuvant chemotherapy is ill-defined. Traditionally, the regime consists of bleomycin, etoposide and cisplatin (BEP). Bowel perforation with chemotherapy is uncommon. 11 cases had been reported with paclitaxel (Jayakody et al, 2018) while there is 0.3% to 2.4% risk with bevacizumab (avastin package insert). This is the first report of a spontaneous bowel perforation with BEP. **Case Presentation:** A 50-year-old woman, who was two months post-staging laparotomy and total abdominal hysterectomy bilateral salpingoopherectomy (TAHBSO) for GCT of bilateral ovaries and had completed two cycles of etoposide and cisplatin, and six cycles of bleomycin; was admitted for suspected acute intestinal obstruction with severe electrolyte imbalance. X-ray imaging showed a large amount of air under diaphragm. Emergency laparotomy was done. Pneumoperitoneum was noted upon entry and a 1x1cm perforation of the distal ileum (210 cm from the duodeno-jejunal junction and 40cm from the ileo-cecal junction) was seen with surrounding slough and pus. Segmental resection with double barrel stoma formation was performed. She was discharged well after two weeks and her chemotherapy was discontinued. **Discussion:** Role of chemotherapy in Stage I GCT is debatable as the 5-year disease-free survival (DFS) is 89% with surgery alone and risk of relapse depends on factors like mitotic index, age and tumour size. Careful deliberation of each case is required. **Conclusion:** Spontaneous bowel perforation is life-threatening and may occur with BEP regime. Early detection and management is key to reducing morbidity and mortality.