

Challenges in Assisted Reproductive Technology (ART)

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Case Report

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Introduction

ART has become an effective and well accepted treatment for subfertile couples. Although they are widely practiced all over world, debate still persists regarding their efficacy, cost-effectiveness, risk factors and side effects. Despite its established efficacy, much attention has not been paid to its adverse effects and/or complications. Just like other medical specialties, ART is also associated with complications.

These complications may be related to

- Ovarian stimulation e.g. Ovarian Hyperstimulation Syndrome (OHSS)
- Oocyte retrieval e.g. trauma to pelvic structures, vaginal & pelvic haemorrhage, pelvic infections, anesthesia related complications.
- Embryo transfer e.g. bleeding, rejection of embryos.
- Pregnancy after ART e.g. multiple pregnancy, abortion, ectopic pregnancy, heterotopic pregnancy.
- Offsprings born by ART e.g. chromosomal abnormalities leading to recurrent miscarriage, preterm delivery and low birth-weight, congenital anomalies.

Factors responsible for complications are

- Couples who require ART are of older age group which increases the chances of genetic problems in offsprings as well as pregnancy complications.
- It is not clearly known if drugs used in ART may have any adverse effects on growing embryos.
- Human manipulation of sperm and eggs, in-vitro culture, cryopreservation and embryo-transfer may affect developmental outcomes by modifying natural processes.
- More than 50% of IVF births are from multiple gestation, resulting in a large negative impact in developmental outcomes.

Case Report

Here, we report an interesting case in which we encountered complications post-ART.

Spontaneous Hemoperitoneum Due to Corpus Luteal Cyst Rupture

A young 26yr old lady P₀A₁, of secondary infertility, known case of endometriosis Grade – IV, underwent IVF. Being poor responder, she had only two ovas retrieved and after ICSI (Intra-Cytoplasmic Sperm Injection) with her husband's sample two good quality embryos transferred. Patient was quite comfortable and asymptomatic during the whole period of ovulation induction, ovum pick-up (OPU) and embryo transfer (ET). And she was continuing with all medications being prescribed to have fair chances of implantation viz. Ecosprin, LMW Heparin, Dexona, Oestrogen, Progesterone, Folic acid etc. One day post-ET (i.e. 5 days post OPU), she had features of acute pain lower abdomen, associated with nausea & vomiting, increasing in intensity, later on becoming generalized all over abdomen, specially referring to right shoulder-tip, and not responding to conservative treatment. On USG, it was found that there was significant to moderate amount of intraperitoneal fluid with increased echogenicity, which on aspiration confirmed of hemoperitoneum, others NAD. So she was taken up for emergency laparoscopy to see its origin as her vitals were normal except mild tachycardia. On laparoscopy, it was found that approximately 350-400cc of dark-coloured blood present in peritoneal cavity, reaching upto diaphragm and liver, but no active bleeding point noted. On further exploring the pelvis, it was found that a ruptured corpus luteal cyst was present in right ovary, which could've bled and stopped at its own. Left ovary and bilateral tubes though inflamed and adherent

to uterus but no other haemorrhagic site noted. So after thorough peritoneal lavage, a final diagnosis of ruptured corpus luteal cyst was made. Patient recovered post-operatively with one unit PRBC, though later on she had failed IVF.

Discussion

Intra abdominal haemorrhage may occur after ovum pick-up and usually presents in 1-2 days, few cases of massive delayed intra abdominal haemorrhage has being reported in patients at risk of thrombo-embolism who concomitantly used LMWH [1]. To add on, when a damaged blood vessel interacts with clotting proteins and platelets, it forms a stable fibrin-plug leading to its coagulation. If there is any abnormality of these factors, it may result in clinically significant bleeding. Battaglia, et al. [2] reported massive hemoperitoneum in case of coagulation factor XI deficiency and El Shawarby, et al. [3] in a case of thrombocytopenia. But here this cause was ruled out because the visible site of bleeding was different from the site of pick-up. Besides, spontaneous hemoperitoneum may occur in various gynecological emergencies, the most common being ruptured ectopic pregnancy or ruptured corpus luteal cyst, uncommon causes being rupture uterus, endometriosis and ruptured hydrosalpinx. Cases have been reported in women taking anticoagulant or with clotting factor deficiency, which are at increased risk of hemoperitoneum due to corpus luteal cyst rupture [4]. Corpus luteum cysts are thin-walled, functional vascular structures, formed after ovulation, most of which are predisposed to rupture due to increased vascularity. Corpus luteal cyst rupture resulting in hemoperitoneum is a rare clinical entity and the clinical symptomatology and sonographic features of its rupture may closely mimic ectopic pregnancy. Management of corpus luteum haemorrhage is conservative or surgical, but if there is ultrasonic evidence of large amount of peritoneal fluid and severe pain, it is an indication for operative intervention [5-7]. So, this was a confirmed case of corpus luteal cyst rupture, though rarely reported in IVF, whose bleeding

might have increased due to concomitant use of LMWH and Ecosprin.

References

1. Mashiach R, Stockheim D, Zolti M, Orvieto R (2013) Delayed intra-abdominal bleeding following transvaginal ultrasonography guided oocyte retrieval for in vitro fertilization in patients at risk for thrombo-embolic events under anticoagulant therapy. 2: 189.
2. Battaglia C, Rengoni G, Giuliani S, Madgar L (2001) Severe intra abdominal bleeding after transvaginal oocyte retrieval for IVF-ET and coagulation factor XI deficiency: a case report. *J Assist Reprod Genet* 18(3): 178-181.
3. El Shawarby SA, Margara RA, Trew GH, Laffan MA, Lavery SA (2004) Thrombocytopenia and hemoperitoneum after transvaginal oocyte retrieval for in vitro fertilization. *Fertil Steril* 82(3): 735-737.
4. Gupta N, Dadhwal V, Deka D, Jain SR, Mittal S (2007) Corpus luteum haemorrhage: rare complication of congenital and acquired coagulation abnormalities. *J Obstet Gynaecol Res* 33(3): 376-380.
5. Hoffman R, Brenner B (2009) Corpus luteum haemorrhage in women with bleeding disorders. *Women's Health (Lond Engl)* 5(1): 91-95.
6. Payne JH, Maclean RM, Hampton KK, Baxter AJ, Makris M (2007) Haemoperitoneum associated with ovulation in women with bleeding disorders: the case for conservative management and role of contraceptive pill. *Haemophilia* 13(1): 93-97.
7. Jamal A, Mesdaghinia S (2007) Ruptured corpus luteum cysts and anticoagulant therapy. *Int J Gynaecol Obstet* 76(3): 319-320.

