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Case Report

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A case of ovarian torsion in a stimulated ovary prior to trigger followed by successful egg retrieval and good fertilization rate and successful clinical pregnancy outcome

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Abstract

Introduction: Ovarian torsion is a rare but serious complication during ovarian stimulation, especially before ovulation trigger, and can lead to loss of ovarian function if not promptly treated.

Case presentation: Before the trigger was given, ovarian torsion occurred in a 32-year-old woman undergoing ovarian stimulation for IVF. After undergoing laparoscopic detorsion, she had a successful oocyte retrieval procedure. The affected ovary yielded viable oocytes and a fair-quality day-6 blastocyst, though fertilization and blastocyst conversion rates were lower compared to the contralateral ovary. Bilateral infundibulopelvic ligament plication was performed to prevent recurrence.

Conclusion: Early intervention with detorsion can preserve ovarian function and allow continuation of IVF treatment. This case highlights the potential for successful outcomes even when torsion occurs before trigger.

Keywords: Ovarian torsion; Ovarian stimulation; In vitro fertilization.

Background

The most frequent reports of ovarian torsion in patients undergoing in vitro fertilization occur during oocyte extraction, with an incidence of 0.024%-0.2% [2,3]. Few cases of ovarian torsion have been documented during the time between the last oocyte maturation and extraction when hCG or a GnRH agonist is administered. This case reports a patient who had torsion before the trigger injection, during the stimulation phase of IVF. The results of this therapy cycle are also discussed. She had surgical detorsion and a successful egg retrieval.

Case presentation

A 32-year-old female a case of primary infertility with polycystic ovaries presented to INDIRA IVF with pain abdomen, nausea and vomiting for 3 hours. She has a history of 2 years of primary infertility and a history of 2 cycles of ovulation induction followed by Intrauterine insemination. She had over 20 antral follicles in each ovary and an Antimüllerian Hormone (AMH) level of 2.66 ng/mL. Her examination was within normal limits, however the results of the pelvic ultrasound showed polycystic ovarian morphology.

In the present cycle she was being stimulated with Injection Folisurge 225 IU for 5 days and 187.5 IU for 2 days. Injection Cetrorelix 0.25 mg was added on day 6. The dose of gonadotrophins was reduced on day 8 of stimulation to 150 IU. On day 9 of stimulation she had developed generalized pain lower abdomen 10/10 intensity with nausea and vomiting. She presented

to hospital within 2 to 3 hours of symptoms. On examination her vitals were stable. She appeared to be in significant distress. Per abdomen palpation reveals guarding, tenderness and rigidity on the lower left abdomen. Transvaginal ultrasonography reveals bilaterally enlarged ovaries consistent with stimulation. Right ovary measured 7.2 x 5.8 x 5.4 cms and left ovary 6.78 x 4.89 cms. Right ovary vascularity present and reduced vascularity on left side. Arterial vascularity was preserved in both the ovaries while venous vascularity was reduced on the left side. Free fluid present in POD about 4 ml in volume. A decision for conservative management with SOS preparation for laparoscopy was taken. Patient was started on Injectable antibiotic and analgesics. After two hours of watchful expectancy the patient was taken up for emergency laparoscopy 6 hours after onset of pain. Intraoperatively the left ovary was found torsed around the infundibulopelvic ligament and was bluish in color. There was a single loop of torsion seen on the left side. The contralateral ovary was pink in color and had normal vascularity. Significant hemoperitoneum was noted.

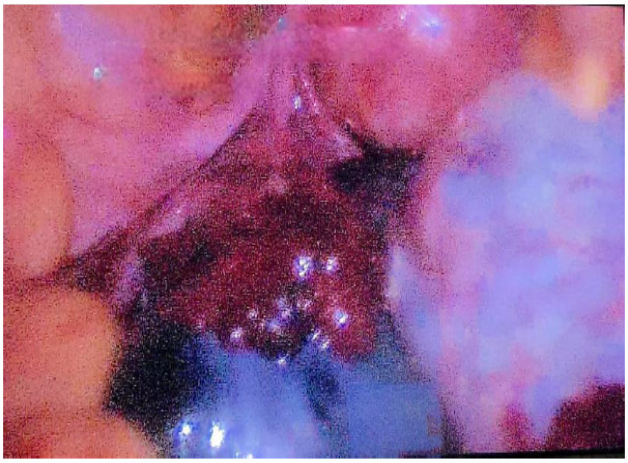


Figure 1: Intraoperative image showing torsed left ovary and normal right ovary.

Detrosion was done which led to restoration of vascularity on the left side followed by bilateral plication of round ligaments using hot bun technique.

The stimulation was continued followed by trigger 2 days later and ovum pick up. 22 M2 oocytes were retrieved out of which 3 were from affected side which resulted in 2 DAY 6 embryos which was frozen (2BB, 4BB)

Follow-up and outcomes

Three mature eggs were extracted from the left torsion-affected ovary, yielding one day 6 blastocyst (1/3) (33%), which was a blastocyst of good quality for cryopreservation. Seven fair blastocysts (9/22) (40%) were obtained from 19 mature eggs that were taken from the right, and on day five, they were cryopreserved. The patient has undergone frozen embryo transfer and is currently carrying single pregnancy of 9 weeks.

Discussion

Ovarian torsion is defined as partial or complete rotation of ovarian vascular pedicle, leading to the obstruction of venous outflow and arterial inflow [8]. The main risk factor is enlarged ovary with a long pedicle. Right sided ovary has a higher tendency to undergo ovarian torsion as compared to left side. This fact is corroborated in a study by Joseph et al where in the preponderance of adnexal torsion on right side was 5:2. Our case is unique in this regard because the torsion was found to be on left side. The proposed reason behind right preponderance is decreased space in lower left pelvis because of presence of sigmoid colon and difference in venous drainage on left side [9]. In a retrospective study by Joseph et al they concluded that abnormal flow by Doppler sonography is useful in diagnosis of ovarian torsion However the presence of normal flow on Doppler does not exclude ovarian torsion as torsion is missed in 60% of cases. The sensitivity of Doppler is increased in cases of ovarian stimulation to almost 75%. The uniqueness of this case is that torsion has occurred prior to trigger. Furthermore, the vast majority of reports of ovarian torsion associated with IVF describe the torsion as occurring after oocyte retrieval [6]. Krishnan et al presented a series of two cases first case followed IVF with OHSS even with timely intervention they had to compromise one ovary. Second case followed OI and IUI where timely intervention helped save one ovary [3]. Naert et al presented a similar case of ovarian torsion before trigger where they performed laparoscopic detrosion followed by oocyte trigger. They concluded that although torsion may compromise oocyte quality in some capacity, it is still possible to obtain viable oocytes and produce embryos from the affected ovary .Inoue et al reported a case of 34-year-old female who presented with signs of torsion on the day of ovulation trigger but that was not confirmed by ultrasonography and the symptoms got relieved by follicular

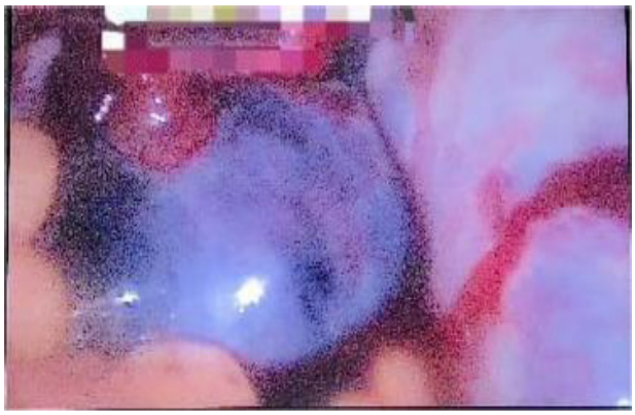


Figure 2: USG image showing left torsed ovary.



Figure 3: Restored vascularity after detorsion of left ovary.

aspiration [5]. In this case follicular fluid was found to be yellow and transparent. Follicular fluid aspiration was done under anesthesia. After recovery she was triggered with agonist and oocyte retrieval was done 35 hours later.

Smith et al reported a case of a 27-year-old who took a recombinant hCG trigger on day 10 and presented to clinic on day 11 with right lower quadrant pain, nausea, and emesis. She underwent laparoscopic right ovary detorsion eight hours after the onset of symptoms followed by egg retrieval [6]. The likely mechanisms which contribute to reduced fertilization rates from torsed ovary decreased arterial supply to the ovary which may result in dysfunctional folliculogenesis [7]. Reduced arterial blood supply leads to ischemic injury to the oocytes. The impact of ischemia on the viability of oocyte is presently unknown [6]. The duration of time interval between onset of symptoms and intervention is a critical factor in determining the outcome of IVF cycle. Stefandis et al has reported a case of empty follicle syndrome. The patient was a 33-year-old female who had symptoms on day 14 of stimulation. Oocyte retrieval was done but nil matuire oocytes were obtained [7]. In a case report by Ganla et al they used a novel therapy of sildenafil citrate but that cannot be used as a substitute of prompt surgical management based on clinical findings. Even with laparoscopy can be used as an adjunct to reduce tissue damage by preveting reperfusion injury [10].

Conclusion

The conclusion from this case that can be drawn is that even in case of ovarian torsion if timely intervention is done the ovaries can be salvaged and oocyte retrieval can be done with fair rate of blastocyst formation which is less compared to non-twisted ovary, this management technique challenges the previous notion that after torsion there is ischemic reperfusion injury and therefore adnexectomy is the only management option available. Precautionary measures to prevent recurrent torsion is to plicate bilateral infundibulopelvic ligaments using hot bun technique.

Declarations

Patient perspective: The patient has been apprised of their condition and the possible management options. The patient and relatives consented to undergo laparoscopic detorsion and were quite satisfied with the swift management of her case.

Informed consent: The authors certify that all informed consent has been obtained and patient is aware that clinical information and images will be used for publication purposes.

References

1. Gorkemli H, Camus M, Clasen K. Adnexal torsion after gonadotrophin ovulation induction for IVF or ICSI and its conservative treatment. Arch Gynecol Obstet. 2002; 267: 4-6.
2. Roest J, Mous HVH, Zeilmaker GH, Verhoeff A. The incidence of major clinical complications in a Dutch transport IVF programme. Hum Reprod Update. 1996; 2: 345-353.
3. Krishnan S, Kaur H, Bali J, Rao K. Ovarian torsion in infertility management - Missing the diagnosis means losing the ovary: A high price to pay. J Hum Reprod Sci. 2011; 4: 39-42.
4. Naert MN, Baker S, Attaman J, et al. Ovarian torsion during ovarian stimulation prior to trigger followed by successful oocyte retrieval: A case report. Case Rep Womens Health. 2023; 37: e00495.
5. Inoue D, Asada Y. Successful oocyte retrieval after follicular fluid aspiration in suspicious of ovarian torsion. Cureus. 2020; 12: e12192.
6. Smith LP, Oskowitz SP, Barrett B, Bayer SR. IVF and embryo development subsequent to ovarian torsion occurring during the resumption of meiosis. Reprod Biomed Online. 2010; 21: 360-362.
7. Stefunidis K, Grammatis M, Pappas K, et al. Empty follicle syndrome associated with ovarian torsion in an in vitro fertilization program. JSLS. 2002; 6: 215-216.
8. Chang HC, Bhatt S, Dogra VS. Pearls and pitfalls in diagnosis of ovarian torsion. Radiographics. 2008; 28: 1355-1368.
9. Peña JE, Ufberg D, Cooney N, Denis AL. Usefulness of Doppler sonography in the diagnosis of ovarian torsion. Fertil Steril. 2000; 73: 1047-1050.
10. Ganla KN, Choudhary RA, Vora PH, Athavale UV. Sildenafil citrate: Novel therapy in the management of ovarian torsion. J Hum Reprod Sci. 2019; 12: 351-354.