

## Spontaneous Resolution of Ovarian Torsion – Case Report and Review

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### Abstract

Ovarian torsion is the twisting of an ovary on its ligamentous supports and can result in a compromised blood supply. Adnexal torsion is a term that is inclusive of either the ovary, fallopian tube, or both. Concomitant ovarian and tubal torsion has been shown to occur in up to 67% of cases of adnexal torsion. Diagnosis of ovarian torsion remains a clinical and imaging enigma. Abdominal pain is the most reliable symptom of torsion but is nonspecific. Many imaging methods help in the same. What course ovarian torsion takes depends on up to how much extent damage has happened and of course the timely diagnosis and management. In this case report we want to share one such clinical scenario where fortunately patient has spontaneous resolution.

**Keywords:** *Torsion; Hyperstimulation; IVF*

### Introduction

Ovarian torsion (adnexal torsion) is an infrequent but significant cause of acute lower abdominal pain in women [1]. This condition is usually associated with reduced venous return from the ovary as a result of stromal edema, internal hemorrhage, hyperstimulation, or a mass. There are certain predisposing or high risk factors like it's more common in:

- Pregnant women compared to nonpregnant (28% Vs 9%) [2-4]
- In controlled ovarian hyperstimulation due to numerous corpus luteal cysts as In IVF especially with OHSS(Ovarian hyperstimulation syndrome)
- Ovarian tumors which are benign, unilocular, 4 - 6 cm in size
- Tubal pathology
- During childhood with relatively mobile ovaries and long tubes.

### Case Presentation

Mrs A (36 years) old married for 10 years with husband Mr Y (43yrs) have been trying for baby for last 10 years. She has been diagnosed as PCOS with husband having history of frequent episodes of depression and anxiety episodes for which he was admitted many times in the hospital. Besides that the husband was a chronic smoker with heavy alcohol intake with diabetes and hypertension. Sad part was in view of his depression he had left the job and was scared of going outside and had locked himself inside room. Even he was not willing to come for the treatment and everytime I tried to counsel him and speak to him telephonically on visit of his wife to clinic. Prior to that they had consulted almost all doctors of Infertility in Mumbai with no outcome.

Finally after repeated trials of counseling with husband and wife both, they decided to go for IVF.

Things went well except that husband had to do home semen collection.

Step up protocol (Antagonist) was used in view of PCOS with freeze all embryos option kept in the back of mind and explained to the patient. 10 eggs were retrieved with formation of 8 Grade A embryos with no signs symptoms of OHSS.

Three embryos were transferred and patient conceived in first go itself.

Beta HCG was tracked which showed rapid rise. But one fine day she had sudden episode of acute pain on the right side with episode of vomiting.

She was admitted with suspicion of:

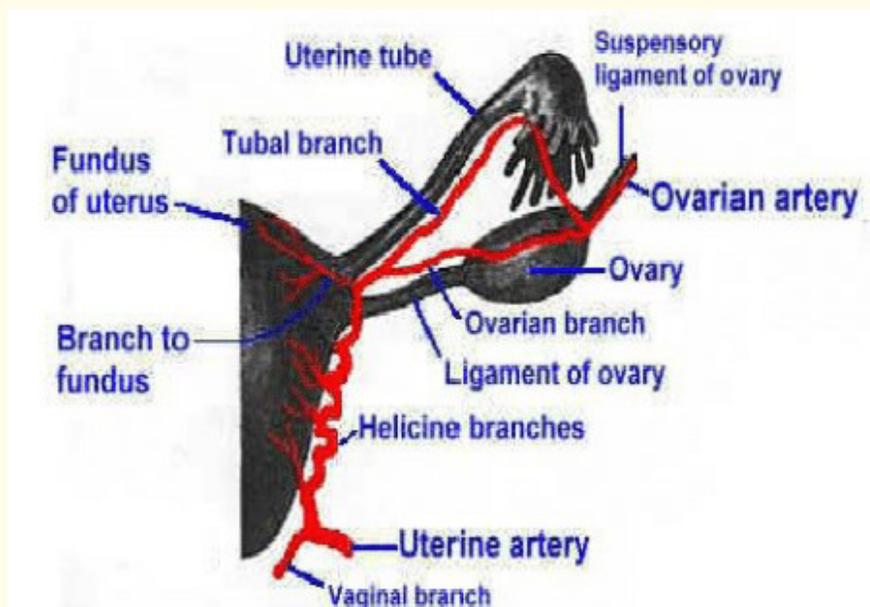
- Ovarian Torsion
- Heterotopic pregnancy with rupture ectopic pregnancy
- Ruptured Ectopic pregnancy
- Hyperemesis Gravidourm

Radiologist did scan and showed triplets with no signs of OHSS and ovarian torsion. She was given symptomatic management with no response. Then she got discharged after three days and got settled and had few episodes of mild pain in between. Then she was planned for next ultrasound at 8 weeks which still showed triplets with signs of right sided ovarian torsion but patient had no pain.

Decision was taken to do emergency laparoscopic detorsion of the ovary. But as the patient was on the blood thinners (Ecosprin and Enoxaparin) hence had to wait for 72 hours with close scrutiny. Patient remained asymptomatic during this period and refused any surgery. Repeat ultrasound findings didn't show any signs of ovarian torsion. Patient was managed conservatively with twin gestation and was having routine antenatal checkup. At 32 weeks she had reversal of blood supply in one of foetus with decreased foetal movements for which she was taken up for emergency Caesarean section and had one healthy premature male baby and a female baby which were kept in NICU for further management. On caesarean she had so sign of any chronic ovarian torsion and had both ovaries and fallopian tubes healthy.

## Discussion

### Ovarian blood supply



Ovaries have blood supply (arterial and venous) along with lymphatic drainage with ovarian artery and pampiniform plexus as the main vessels. High vascularity of ovaries is one of the reason of tendency to undergo torsion [5]. Though ovarian torsion is a very rare event in a natural menstrual cycle but it has a tendency to occur and should be suspected in any patient of IUI/IVF who is on ovulation induction/controlled ovarian hyperstimulation especially when they present with acute abdominal pain. Timely management and intervention can help save the ovaries.

Torsion is caused by the rotation of the ovary or adnexa on its axis, with resulting arterial, venous, or lymphatic obstruction.

**Haemodynamic Changes in Ovarian torsion:** When ovarian torsion happens there is a compensatory increase in vascular flow compromising venous and lymphatic drainage leading to engorged ovaries compromising arterial supply and further can lead to Necrosis and gangrene resulting into loss of ovary [6,7].

How ovarian torsion presents?

Ovarian torsion is the 5<sup>th</sup> common gynaecological emergency with prevalence of 2.7% with 20% happening in pregnant cases more so on right side with 10% being bilateral and concomitant tubo-ovarian in 67% [8-10].

It can be partial/subtotal or complete.

It can have variable non-specific presentation with acute lower abdominal pain with or without a palpable mass such that 100% have abdominal pain, 85% have vomiting, 56% have leucocytosis and 18% have fever [11-14].

Differential Diagnosis include - appendicitis, cholecystitis, PID, urinary collecting system calculi, and ruptured benign adnexal cysts [15,16].

Physical examination findings may not suggest the diagnosis.

Presence of predisposing factors should increase the suspicion of torsion.

### Diagnosis

It can be diagnosed clinically or with the assistance of Ultrasound with Doppler as the method of choice such that the presentation can be variable -an enlarged ovary with small peripheral cystic structures with lack of vascularity with or without free fluid in the cul-de-sac with signs of ischemic necrosis and hemorrhage [17,18].

In some cases there can be deviation of the uterus to the twisted side and engorged blood vessels on the twisted side.

Complete absence of arterial and venous flow in a morphologically abnormal ovary is the sine qua non of ovarian torsion; however, presence of blood flow does not exclude ovarian torsion. Presence of blood flow in an ovary predicts its viability in the presence of ovarian torsion. Absence of blood flow within the twisted vascular pedicle is highly predictive for necrotic ovaries.

CT and MR imaging are helpful in difficult cases as problem solving modalities.

### Management

It varies from conservative treatment including observation with symptomatic management and somological studies to surgical treatment in form of untwisting the torted tubo-ovarian complex to oophorectomy. Detorsion, often with cystectomy or cyst aspiration, has been advocated as safe and beneficial, without significant postoperative complications [19,20].

### Conclusion

Ovarian torsion has a tendency to occur in more in cases with precipitating factors more so in pregnant females. With advanced imaging modalities, the diagnosis of ovarian torsion we can detect it at early stage of clinical suspicion like abdominal pain is the most reliable

symptom of torsion but is nonspecific along with fever, leukocytosis, and nausea and vomiting, are more variable in their presentation. But other causes of acute abdominal pain need to be ruled out and should keep a high suspicion index to avoid misleading ultrasound findings. Ovarian torsion can take clinical course depending upon whether its total or subtotal but present case report was the first of its kind where patient fortunately had spontaneous resolution of the torsion and had normal anatomy on caesarean section. Definitely this one exceptional observation cannot be considered as a point to conservatively treat all, we have to keep each event under check.

### Acknowledgement

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### Conflict of Interest

Nil.

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