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## A Case of Ovarian Torsion

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### **CLINICAL HISTORY:**

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A 28-year-old female presented with-

Complaints of pain abdomen since a day, localized to the right lower abdomen, sudden in onset, intermittent, dullaching in character, non-radiating, relieving to some extent with analgesics with no aggravating factors.

Associated with 2 episodes of vomiting, vomitus was non bilious, non-blood tinged and non-projectile.

Her Urine pregnancy test is negative.

#### **Negative history:**

No history of trauma/fever/abdominal distension/jaundice/painful micturition/burning micturition.

No history of bleeding per vagina/post coital bleeding/mass per vagina.

No known co-morbidities/no known drug allergies/no history of surgeries in the past.

#### **Menstrual history:**

LMP- 28/05/2019, Her last childbirth was 10 months back.

Lactational amenorrhea is present.

Previous cycles: 3-5 days/30-45 days, irregular, moderate flow, not associated with pain or clots.

She was diagnosed with polycystic ovarian disease 6 years back and had undergone treatment

for the same.

**Obstetric history:**

Obstetric score: Para 1 living 1

Married life: 6 years of non-consanguinous marriage

First pregnancy- conceived following ovulation induction, female baby delivered by FTND with birth weight of 3 kg, at present 9 months old, alive and healthy.

**EXAMINATION AND INVESTIGATIONS:**

**CLINICAL EXAMINATION**

**General physical examination:**

A young female patient moderately built and nourished, conscious, cooperative and well oriented to time, place and person.

No pallor

No icterus

No cyanosis

No clubbing

No lymphadenopathy

No pedal oedema

#### VITALS

Temperature – Afebrile (98.4 F)

Pulse rate – 80 beats per minute

BP – 130/80 mm of Hg

RR – 16 cycles per minute

#### **Systemic examination :**

CVS : S1, S2 heard, no murmurs.

RS : Bilateral normal vesicular breath sounds heard. No added sounds.

PER ABDOMEN : Soft, Tenderness present in hypogastric region and right iliac fossa +

No organomegaly, Bowel sounds present.

PER SPECULUM : Minimal white discharge present +

PER VAGINA : Uterus anteverted, normal size, regular, mobile.

Fullness present in Right fornix and posterior fornix.

Tenderness present over right fornix.

Hb – 11.6 gm/dl

PCV- 33.7 %

RBC- 3.86 million/cumm

MCH- 30.1 pg

MCHC- 34.4 gm/dl

MCV- 87.3 fl

RDW- 11.9 %

TLC – 13920 cells/cumm

DLC –

Neutrophils – 87.2 %

Lymphocytes – 10.2 %

Eosinophils – 0 %

Basophils – 0.2 %

Monocytes – 2.4 %

Platelet – 2.88 lakhs/cumm

PT – 12.5 seconds

INR – 0.94

APTT – 25.4 seconds

ULTRASOUND ABDOMEN AND PELVIS *showed*

- **Bulky (4.6 x 7.6 cm) and heteroechoic right ovary with peripherally arranged follicles and absent intrinsic vascularity.**
- **Significant free fluid noted in pouch of douglas.**
- **Fatty liver.**

**FINAL DIAGNOSIS:**

28-YEAR-OLD PARA 1 LIVING 1 WITH RIGHT OVARIAN TORSION

**DIFFERENTIAL DIAGNOSIS**

1. Ovarian torsion
2. Tubo-ovarian abscess
3. Ruptured Ectopic pregnancy
4. Appendicitis
5. Renal Calculi/Ureteric calculi
6. Pelvic Inflammatory Disease

**DISCUSSION:**

Emergency Laparotomy was performed and following findings were noted.

Per-operative findings :

Hemoperitoneum of about 100ml noted.

Right sided fallopian tube and ovary torsion (twisted thrice along its axis) noted.

Right ovary measuring about 5 x 7 cm with bosselated outer surface, dark brown to haemorrhagic in appearance was noted.

Left ovary and fallopian tube normal, Uterus normal.

**RIGHT SALPINGO-OOPHORECTOMY WAS DONE.**

Right ovary and fallopian tube sent for HPE revealed features consistent with ovarian torsion (no viable tissue) and hematosalpinx.



Ovarian torsion is a gynecological emergency which affects females of all age groups. It refers to the axial rotation of ovary on its ligamentous supports which compromises the vascular supply causing ischemic changes in the ovary. Higher incidence is seen in reproductive age group when compared to premenarchal and postmenopausal age groups (1). Adnexal torsions usually involve both ovary and fallopian tube however there are fewer cases of isolated torsion involving either one (one in 1.5 million women) (1). Right ovary is slightly more prone to torsion because of relatively longer infundibulopelvic ligament on the right and also presence of descending colon on left side which supports left ovary preventing torsion.

The predisposing factors for ovarian torsion include trauma, violent physical movements, contractions of pregnant uterus, intestinal peristalsis (7). The two common pathology which predisposes for torsion are presence of ovarian mass and hypermobility of ovary, the former being more common. However, in paediatric and adolescent age group, ovarian torsion is associated with a normal ovary in about 46% of the cases (4). The predisposing factors in them include congenitally long ovarian ligaments, excessive laxity of pelvic ligaments, or a small uterus which allows more space for adnexa to twist on its axis (3).

In adults, the most common underlying pathology is presence of an ovarian mass. More than 80% patients with ovarian torsion had an ovarian mass of 5cm or larger (1). The incidence of ovarian torsion with malignant tumours(<2%) is less than with benign tumours in reported case series (1).It is more common in dermoid or serous cystadenoma (7).Malignant tumors and endometriomas of ovary are prone to adhesions which prevent torsion in them.

The other causes include PCOS (bulky ovaries),ovulation induction which may result in multiple large ovarian follicular cysts carrying increased risk of torsion (2).



The clinical features include acute onset of abdominal pain which is intermittent or sustained, nausea and vomiting, fever. Clinical examination findings may include a tender abdomen/mass per abdomen. Pelvic examination reveals the mass per abdomen felt is separate from the uterus.

Blood investigations may reveal a raised TLC or raised ESR in case of infection, increased specific tumour markers in case of suspected underlying tumors. However, imaging studies remain more relevant in diagnosing adnexal torsions.

Pelvic ultrasonography is the imaging modality of choice. It has a 92% sensitivity and 96% specificity in detecting ovarian torsion (5). If USG shows normal ovary/adnexa, CT scan is used to rule out torsion. MRI is not recommended since urgent imaging is required if torsion is suspected.

USG findings suggestive of torsion include ovarian enlargement, hyperechogenic ovary with peripherally displaced follicles, free fluid in pouch of Douglas and a coiled vascular pedicle which is commonly referred to as the whirlpool sign (6). Based on Doppler flow analysis of the ovary, the severity of adnexal torsion are graded as Class 1- coiling with arterial and venous blood flow, Class 2- coiling with arterial ovarian flow but no venous flow and Class 3- true strangulation with no ovarian blood flow (8). However, normal Doppler study does not rule out the possibility of torsion owing to the dual blood supply of ovaries.

Surgery is the gold standard treatment. Emergency Laparotomy/Laparoscopy is performed which is also the only way to confirm the diagnosis of torsion. The mainstay of surgery is to assess the viability of ovary and its preservation. De-torsion which refers to the untwisting of the axial rotation is the conservative procedure. Following de-torsion, about 80% of the

patients had a normal follicular development (1). Salpingo-oophorectomy is the definitive surgery in cases of necrosed /gangrenous ovary.

Oophoropexy (fixation of the ovary) is the treatment of choice in patients with increased chances of recurrence and patients with unilateral ovary. Various approaches of oophoropexy include fixation of ovary to either pelvic side wall, posterior abdominal wall or posterior wall of the uterus. Oophoropexy combined with shortening of the utero-ovarian ligament might be more efficacious in preventing recurrence (9).

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