

Single Ovary with Ovarian Torsion

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ABSTRACT:

Ovarian torsion is an uncommon cause of acute abdominal pain in females, but it is a gynaecologic emergency-diagnostic delay can result in loss of the ovary². It can involve the fallopian tube, the ovary and other adnexal structures. Although this condition is generally viewed as uncommon, studies suggest that adnexal torsion is the fifth most common gynaecological emergency, representing 2%-3% of acute surgical emergencies. The clinical features of ovarian torsion is sudden onset of unilateral lower abdominal pain accompanied by nausea and vomiting. Ultrasound is the diagnostic modality of choice for detecting torsion. The absence of blood flow within the ovary on Doppler examination is a useful finding in establishing diagnosis. Timely investigation and management can make the difference between ovarian loss and salvage-an outcome of great importance in the population of reproductive age females.

Key words: Ovarian torsion, salvage.

Introduction

Ovarian torsion is an uncommon gynecological emergency that requires early diagnosis and prompt treatment. It may present with nonspecific signs and symptoms, and should be considered in any female with acute abdominal pain.¹The ovary and fallopian tube become twisted around their vascular pedicle.²Timely investigation and management can make the difference between ovarian loss and salvage. New advances in conservative surgical management have made early recognition critical for ovarian salvage, especially in the reproductive population.²

Case Report

A 19 year old woman with post abortal post untwisting of ovary came to the gynaec OPD with the complaints of abdominal pain, which was diffuse in nature, associated with vomiting and loose stool, was diagnosed as Ectopic pregnancy and Emergency laproscopic surgery was done.

Administered Intravenous fluid and Inj. Tramadol, no relief after 10 days. On arrival to the gynaec OPD, she was alert, oriented and felt mild discomfort. Oral temperature was 36.8°C, Respiratory rate was 16 breaths/mt, Heart rate 116 beats/mt and Blood pressure was 100/80 mm Hg. Physical examination findings revealed pale conjunctiva and general condition was fair. Her CVS and respiratory examinations were normal. Her abdomen was soft, with tenderness in the right lower quadrant, SPT scar present and healthy wound. The pelvic examination revealed right adnexal fullness and tenderness with no vaginal discharge. Ultrasound was performed, showing a 10x7cm ovarian mass, hyperechogenicity with post acoustic shadowing. **The left ovary and fallopian tube were absent and uterus normal.** She was diagnosed as retroversion of right ovary. Emergency laprotomy with right salphingoophorectomy was done for twisted ovarian mass. Infected

gangerenous ovarian mass was sent for histopathological examination.

Definition

Ovarian torsion is defined as rotation of the ovary and its pedicle to such a degree as to occlude the ovarian artery and/or vein.³

Incidence

Ovarian torsion accounts for about 3% of gynecologic emergencies. The incidence of ovarian torsion among women of all ages is 5.9 per 100,000 women, and the incidence among women of reproductive age (15–45 years) is 9.9 per 100,000 women. About 70% of women are diagnosed with ovarian torsion between the age group of 20 to 39 years.⁴

Predisposing Factors

The risk is greater during pregnancy and inmenopause.

- Adenexalmasses,
- Ovulationinduction
- Previous pelvicsurgery
- Increased length of the ovarianligaments
- Pathologically enlarged ovaries (more than 6 cms),
- Ovarian masses orcysts,
- Enlarged corpus luteum inpregnancy.¹⁻⁴

Pathophysiology

The development of an ovarian mass is related to the development of torsion. In the reproductive years, regular growth of large corpus luteal cysts are a risk factor for rotation of ovary. The mass effect of ovarian tumors is also a common cause for torsion. Torsion of the ovary usually occurs with

torsion of the fallopian tube as well on their shared vascular pedicle around the broad ligament although in rare cases the ovary rotates around the mesovarium or the fallopian tube rotates around the mesosalpinx. In 80%, torsion happens unilaterally, with slight predominance on the right.⁴

Clinical Features

- **Acute pain:** Acute onset of severe, progressive unilateral abdominal or pelvic pain that is crampy or colicky in nature. The pain may radiate into the thigh or lower back on the affectedside.
- Nausea and vomiting iscommon.
- Low grade fever mayoccur.¹

Investigation

The diagnosis of ovarian torsion can be difficult because the presenting signs and symptoms, abdominal pain, nausea and vomiting, are common to many causes of acute abdomen.

History collection regarding prior ovarian cysts, prior ovarian torsion or current pregnancy.

- The physical examination finding may reveal a soft abdomen with lower quadrant tenderness, however if the torsion is long lasting, the abdomen may be diffusely tender with peritonitis and rigidity, difficult tolocalize.
- Bimanual pelvic examination may demonstrate uterine shift toward the affected side. Adnexal tenderness is typical and up to 50% of women have a palpable adnexal mass.
- The use of plasma D-dimer level has been studied in the diagnosis of torsion. With a cut-off value 0.65mg/ml, the sensitivityin

determining adnexal/ovarian torsion was found to be 71.4%. Specificity was 85%.⁴

- Ultrasound is the immediate choice of investigation. Patient with ovarian torsion will have abnormal ultrasound findings. In the early stages

of ovarian torsion, the ovary is enlarged with prominent peripheral follicles. Hyperechogenic and hypoechogenic areas may be seen which correspond to hemorrhage and edema respectively.¹

- Other ultrasonographic features include; Enlarged hypoechogenic or hyperechogenic ovary, Peripherally displaced ovarian follicles, free pelvic fluid. This may be seen in more than 80% of cases, **Whirlpool sign** of twisted vascular pedicle, Underlying ovarian lesion can often be found, Uterus may be slightly deviated towards the torsed ovary⁴.
- CT scan in ovarian torsion is nonspecific, with the most common finding being an enlarged ovary or ovarian mass. Other signs on CT include a thickened fallopian tube, associated free fluid/hemorrhage, and deviation of the uterus to the affected side. However, if you are strongly considering

appendicitis or kidney stone as an alternate diagnosis, CT may be helpful in ruling in or ruling out these conditions.²

- Colour Doppler Sonography (CDS) has been used increasingly in recent years to evaluate

ovarian viability. Abnormal flow on CDS increases the likelihood of torsion.¹

The bottom line - there is no single finding that can definitively "rule in" or "rule out" ovarian torsion. If all your tests are negative, but you still suspect it, call your gynecologist to discuss taking the patient to the

Operating room for laparoscopy.²

Differential Diagnosis

- Ruptured Ovarian cyst
- Tubo-ovarian abscess
- Ectopic pregnancy
- Appendicitis
- Renal calculi
- Pelvic inflammatory diseases
- Bowel obstruction
- Cystitis.²

Management

In an emergency department, the physician starts with a primary assessment: airway, breathing, circulation. Anyone with a suspected torsion should have an intravenous (IV) line placed. Treat pain and nausea with IV medications as soon as the

PROGNOSIS:

With early diagnosis and appropriate treatment, the prognosis of ovarian torsion is excellent. However, most patients with ovarian torsion have a delayed diagnosis, often resulting in infarction and necrosis of the ovary. The ovarian salvage rate has been reported below 10% in adults but as high as 27% in a study among pediatric patients. Although the loss of a single ovary is unlikely to result in significantly reduced fertility. Early diagnosis allows conservative laparoscopic treatment and reduction in complications.³

IV access - there is no need to wait for the diagnosis. Keep the patient NPO in preparation for admission.

Treatment of adnexal torsion is surgical.²The ovary must be untwisted as soon as possible to restore blood flow. Experienced laproscopists may be able to manage an ovarian torsion through a laproscope, but larger adnexal structures or relative inexperience with laproscope will require conversion to laparotomy. In the past, oophorectomy was considered the standard of care, because untwisting of adnexa might precipitate pulmonary embolism from a thrombosed vein. Most surgeons will try to salvage any normal ovarian tissue in a premenopausal patient. Conversely, an obvious hemorrhagic infarction or gangrenous adnexal structure requires surgical removal without attempt to untwist.¹

Nurses Responsibility

- Provide comfort and complete bedrest.
- Reassure the mother.
- Maintain intake and output chart.
- Observe the mother for complication.
- Provide Pre and post operative care.
- Assist the mother to cope with hospitalization.
- Counseling regarding In Vitro Fertilization.
- Provide psychological support.

Conclusion

Ovarian torsion is a surgical emergency that often presents a difficult diagnostic challenge. A detailed history and physical, including a pelvic exam is crucial, and ancillary tests such as β -HCG are useful to exclude other possibilities. Ultrasound with

or without Doppler imaging may be helpful; however, direct laparoscopic visualization is the only way to confirm the diagnosis. New advances in conservative surgery have made rapid investigation imperative, since the ability to save a viable ovary is time dependent.

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