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Case Report

An interesting case of right ovarian cyst torsion: case report

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ABSTRACT

Ovarian torsion is a comparatively rare gynecological emergency. It commonly presents with complaints of acute abdominal pain, nausea, and vomiting. It occurs due to twisting of the ovarian pedicle leading to ischemic changes in the ovary. It can even result in complete loss of blood supply, eventually necrosis of the ovary. It is diagnosed clinically and can be confirmed on ultrasound color doppler. The management of ovarian torsion depends on the age of the patient, size of the mass, ovary condition, and USG findings. Early diagnosis and treatment of torsion are necessary to preserve the viability of the ovary. We are reporting a case of a 30-year-old female with right ovarian cyst torsion of size 6.3×6.8×6 cm. Once torsion is diagnosed surgery is the mainstay of treatment, either detorsion and ovariopexy or oophorectomy if the ovary cannot be salvaged.

Keywords: Abdominal pain, Ovarian cyst, Ovarian torsion, Detorsion, Ovariopexy, Oophorectomy

INTRODUCTION

Ovarian torsion is the fifth most common gynecological emergency with a prevalence of 2.7% among the cases of acute abdominal pain.[1] It is defined as the partial or complete rotation of the adnexa around its ovarian vascular pedicle that may cause a cessation in the blood supply to the ovary. This leads to ischemia and may lead to subsequent necrosis of the ovary and necessitate resection. As symptoms of ovarian torsion are non-specific and variable, this condition is a diagnostic challenge with potential implications for future fertility. Consequently, clinical suspicion and timely intervention are crucial for ovarian salvage.[2] In patients undergoing emergency surgery for acute pelvic pain, the frequency of adnexal torsions is about 2.5-7.4%. The gold standard to confirm and treat ovarian torsion is surgery. There are two surgical methods that can be used for the treatment, laparoscopy, and laparotomy.[3]

CASE REPORT

A 32-year-old multiparous tubectomised patient came to OPD at LTMGH, Sion with a complaint of vague lower abdominal pain and nausea for 2 days. On examination per abdomen was soft, and no guarding, rigidity, or tenderness was present. On per speculum examination, the cervix and vagina were noted healthy. On per vaginal examination, the uterus was anteverted normal size, with a mass felt in the Pouch of Douglas, bilateral fornices were free and no forniceal tenderness was noted. The patient was advised to follow up with the USG pelvis. USG Pelvis was suggestive of a 6×4.5×4.6 cm sized right ovarian hemorrhagic cyst with maintained pedicle vascularity. The patient was advised admission for further work-up and intravenous antibiotics, analgesics, and further evaluation with tumor markers was planned. The patient reported 1 day later to the emergency department with a complaint of severe colicky abdominal pain, nausea, and 2 episodes of vomiting. An urgent USG pelvis was done which was suggestive of a right-sided 7×4.5×4.6 cm sized heterogeneously hypoechoic cystic collection with dense internal echoes within, with thickened right ovarian pedicle with no internal vascularity, features likely suggestive of right ovarian torsion as shown in figure 1. The decision for emergency exploratory laparotomy with sos salpingo-oophorectomy was taken. All pre-operative requisites were fulfilled and the patient was taken up for

the emergency exploratory laparotomy with proper written, well-informed, and valid consent. Intra-operatively, 2 and a half turns of the right ovarian pedicle were seen and detorsion was done. A 6×6×6 cm sized necrosed right ovarian cystic mass was noted with a necrosed right fallopian tube as shown in Figure 2. Right-side salpingo-oophorectomy was done. Left side ovariopexy done. The patient tolerated the procedure well and the postoperative course was uneventful.

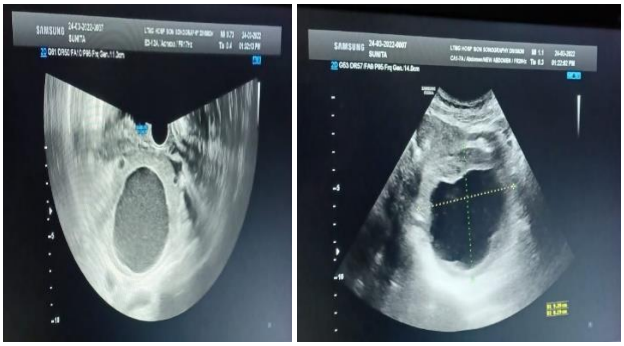

Figure 1: Ultrasound figures of an ovarian hemorrhagic cyst.

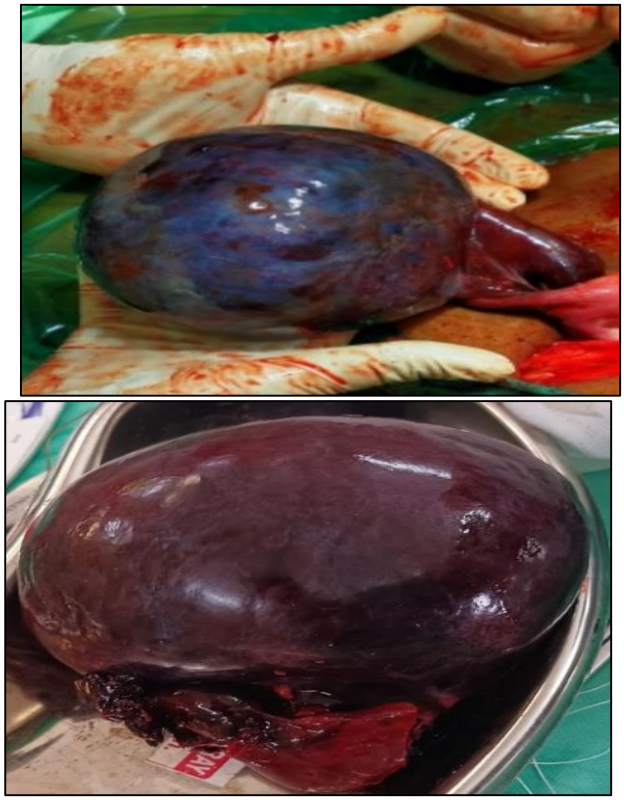

Figure 2: Intraoperative picture of right ovarian torsion.

DISCUSSION

A hemorrhagic ovarian cyst (HOC) is an adnexal mass formed by bleeding into a follicular or corpus luteum cyst or a theca lutein cyst. Most of the HOCs are benign, and few can be neoplastic. Mostly seen in young women of the reproductive age group though also has been reported rarely in perimenopausal women.[4]

Secondary to hormonal response, the stromal cells surrounding a maturing Graafian follicle become more vascular and after the oocyte has been expelled, the Graafian follicle develops into a corpus luteum with a highly vascular and fragile granulosa layer, which ruptures easily, forming HOCs.

Ovarian cyst torsion can occur at any age with the greatest incidence in women aged 20-30 years.[5] Most of the time ovarian cyst torsion occurs on the right side with a probability of 70% due to longer utero-ovary ligaments. On the left side, there is limited space due to the presence of the sigmoid colon which also contributes to the incidence of lateralization. In our patient ovarian cyst torsion was found on the right side. Ovarian cysts more than 5 cm are at risk of torsion. The other risk factors of ovarian cyst torsion are pregnancy, ovarian hyperstimulation, history of abdominal surgery, and tubal ligation.[6]

Nearly 80% of patients with torsion ovaries have ovarian masses of 5 cm or larger. However, ovarian torsion can occur with any masses with size ranging from 1 to 30 cm (mean 9.5 cm). Large follicular cysts as a result of ovulation induction in infertility treatment may carry an increased risk for torsion.[7]

Torsion is often associated with preexisting ovarian pathology, yet large cysts are thought to be less likely to undergo torsion secondarily to their size and mass.

In ultrasonography, a torsed ovary may be rounded and enlarged compared with the contralateral ovary, because of edema or vascular and lymph engorgement.[8] Whirlpool sign is highly sensitive to ovarian torsion. The Whirlpool sign shows a twisted vascular pedicle and a Doppler USG reveals circular vessels within the mass.[9]

Ultrasound is considered the cornerstone in the diagnosis of HOCs irrespective of the clinical condition of the patients often misdiagnosed due to their variable sonographic appearance, mimicking other organic adnexal masses like dermoid.

Sonographic morphological patterns of HOC-Thin wall, the internal echogram shows a diffuse solid pattern, the internal echogram shows a mixed cystic and solid pattern, the internal echogram shows a sponge-like pattern (lace-like reticular pattern), color Doppler of HOC show peripheral or circumferential blood flow in the cyst wall typically.

Magnetic resonance imaging (MRI) can be used to diagnose torsion if findings on ultrasound are equivocal.[10] MRI can demonstrate the components of a

mass in more detail than an ultrasound. A pelvic MRI may be performed to confirm the diagnosis.

The following are the risk factors for developing torsion ovarian cysts: Cyst more than 5 cm, elongated infundibulo-pelvic ligaments, premenarchal girls and postmenopausal women and ovarian cyst along with pregnancy.

Most small hemorrhagic ovarian cysts less than 5 cm disappear spontaneously with follow-up. The conservative treatment given is analgesics and anti-inflammatories are needed. Follow-up with USG pelvis is done once in 3 months. Surgical intervention is required in HOC >5 cm, intractable pain (Rupture, hemorrhage and torsion), leukocytosis, and anemia.[11]

Once ovarian torsion is suspected, surgery or detorsion is the mainstay of treatment.[12] In our case, we did a mini-laparotomy as endoscopic instruments were unavailable on our emergency day. Laparoscopy is the first modality of choice in such cases.

CONCLUSION

Ovarian cyst torsion can occur at any age. Therefore, a high index of suspicion coupled with ultrasonographic evidence and adequate clinical presentation reduces morbidity and complications of the disease. Rapid diagnosis and surgical intervention are the keys to recovery.

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