Torsion of Ovarian Cyst presenting as Acute Abdomen: Report of Two Cases

Jyoti Singh, Vidya Kamble, Sushil Kumar

ABSTRACT

Introduction: Two cases of ovarian cyst torsion are presented. The first case was a young girl, 17 years of age, who presented with acute abdomen. Ultrasonography (USG), computed tomography (CT) scan, and Doppler revealed bilateral ovarian cysts. The right-sided cyst had undergone torsion. Exploratory laparotomy confirmed the presence of twisted ovarian cyst on right side and a small dermoid cyst on left side. Right side salpingo-oophorectomy and left side cystectomy were done. The patient made an uneventful recovery.

The second case was a 27-year-old lady, primigravida with 8-week pregnancy, who came with severe pain in right lower quadrant of abdomen of 3 days duration. Ultrasonography was suggestive of live intrauterine pregnancy of 8.4 weeks gestation and two cysts in the right ovary. The Doppler scan for the cyst was suggestive of ovarian torsion. Laparotomy confirmed the diagnosis of ovarian torsion. Right-sided salpingo-oophorectomy was carried out. The patient made an uneventful recovery and she is continuing with pregnancy.

Keywords: Cystectomy, Oophoropexy, Torsion.

INTRODUCTION

Torsion of ovary occurs when there is total or partial rotation of the adnexa around its vascular axis or pedicle. Ovarian torsion has been as reported as the fifth leading cause of gynecologic emergencies. Ovarian torsion increases five-fold during pregnancy. Torsion of ovarian tumors occurs predominantly in the reproductive age group. Fallopian tube may also be involved (adnexal torsion). The predisposing factors are moderate-to-large cyst size, free mobility, and long pedicle. It is most commonly seen in cases of immature teratoma (dermoid cyst) or serous cystadenomas. In ovarian torsion, initially, there is venous and lymphatic blockades leading to stasis, venous congestion, hemorrhage, and necrosis, which is followed by ischemic gangrene. These patients generally present with acute abdomen.

CASE REPORTS

Case 1

A 17-year-old unmarried girl reported with the complaints of intermittent pain of the lower abdomen of 2 days duration, which increased on straining and walking. She also had two to three episodes of vomiting the same morning. She was hemodynamically stable. Examination showed tenderness and guarding in lower abdomen.

Lab investigations: Hemoglobin (Hb) 11.8 gm%, total leukocyte count (TLC) 12,170/cu mm, platelet 2.6 lakh/cu mm, CA-125 49.4 mIU/L.

USG pelvis: Right ovary—dermoid cyst of 4.2 × 3.5 cm and a simple cyst of 4.7 × 3.1 cm dimensions. Left ovary—dermoid cyst of 3.5 × 2.3 cm dimension.

CT scan: Bilateral complex cystic adnexal masses, 5.8 × 8.6 × 9.5 on right side and 3.8 × 3.3 cm on left side, with fat and calcification.

The patient developed high fever on the next day of admission. In view of clinical findings, the USG and CT scan reports, the decision to perform exploratory laparotomy was taken.

Laparotomy findings: There was a right ovarian cyst measuring 12 × 7 × 3 cm with torsion at the pedicle. The tissue distal to torsion (ovarian cyst and fallopian tube) was necrosed and hemorrhagic. Left-sided dermoid cyst was 5 × 3 × 2 cm in dimension; left fallopian tube and uterus were normal (Fig. 1).

Considering gangrene of right-sided adnexal mass, right-sided salpingo-oophorectomy was carried out. The left-sided dermoid cyst was enucleated to conserve the ovarian tissue for future fertility. Postoperatively, the patient made an uneventful recovery and was discharged home after 5 days. Histopathological examination (HPE) showed bilateral mature cystic teratoma with gangrene of right ovarian tissue and fallopian tube.
Torsion of Ovarian Cyst presenting as Acute Abdomen

Case 2
A 27-year-old lady, married, primigravida with 8-week pregnancy came to the outpatient department with complaint of severe pain in the right iliac fossa, radiating to back of 3 days duration. The pain was not relieved by pain killers. Clinical examination showed tachycardia and tenderness over right iliac fossa. Other vital parameters were normal.

Lab investigations: Hb 12.6 gm%, TLC 10,700/cu mm, platelet 4.15 lakh/cu mm.

USG pelvis: Live single intrauterine pregnancy with 8-week gestation, right ovary having two ovarian cysts measuring 5.9 × 5.6 cm and 4.6 × 3.7 cm respectively.

Doppler scan: Right side ovarian cyst with decreased vascularity suggestive of ovarian torsion. In view of provisional diagnosis of ovarian torsion leading to acute abdomen, decision of exploratory laparotomy was taken despite risk to early pregnancy.

Laparotomy findings: Right ovarian cyst was 10 cm × 12 cm in size. There was torsion involving the fallopian tube (Fig. 2). The right fallopian tube and right ovarian mass were hemorrhagic, necrosed, and gangrenous. Uterus, left fallopian tube, and left ovary were normal. Right side salpingo-oophorectomy was carried out. The patient made an uneventful recovery. The USG done on postoperative day 7 confirmed a viable pregnancy. The HPE report showed hemorrhagic cyst with no viable tissue, suggestive of corpus luteal cyst, since there was no corpus luteum despite early pregnancy. Patient made an uneventful recovery and was discharged 11 days after surgery. She was advised progesterone support up to 12 weeks of pregnancy.

DISCUSSION
Ovarian torsion affects the females of reproductive age from 15 to 45 years.1,4 Ovaries measuring size of 6 cm or more have higher chances of undergoing torsion.5 One in 10,000 pregnancies are complicated with adnexal torsion, mostly in first trimester.5 Almost 70% of ovarian torsion takes place on the right side. The left-sided ovarian torsions are less common because the sigmoid colon occupies most of the space on the left side of the pelvis.4 Chances of ovarian torsion increase in pregnancy. Ovarian torsion usually involves the fallopian tube, infundibulopelvic ligament, round ligament, utero-ovarian ligament, and broad ligament. Types of ovarian cysts that can undergo torsion are dermoid cyst, cystadenomas, corpus luteal cyst, and endometriomas. The cysts may be unilateral or bilateral, but torsions are mostly unilateral.3,4 Predisposing causes of torsion are large cyst, ovulation induction, and pregnancy.4 Clinical parameters are less specific for diagnosis of ovarian torsion. Ultrasonography is the primary method for evaluating ovarian torsion. It is readily available, non-invasive, cost effective, and accurate. Doppler findings are dependent on the degree of vascular compromise. Absence of venous and arterial flow is the most specific finding. Ovarian torsion can also be diagnosed with CT and magnetic resonance imaging (MRI). The CT carries the risk burden of radiation exposure. The MRI is not readily available in the emergency settings. Laparoscopy is another modality that can be used for both confirmation of diagnosis and treatment. The treatment of ovarian cyst depends on size and type of cyst, age, symptoms, and fertility, USG, and Doppler findings. It can be either conservative or surgical. For conservative treatment, timely diagnosis and treatment may help in salvaging ovaries. The ovaries may be preserved in adolescents and the women of reproductive age group desirous of having children.3 Detorsion alone or with cystectomy may preserve ovarian function and fertility. In cases of enlarged ovaries, torsion can be recurrent and, in these
cases, oophoropexy\(^3\) (fixation of ovary to pelvic wall) is an option. The laparoscopic plication of utero-ovarian ligament is another option available to the gynecologists to prevent recurrent torsion.\(^5\) In case of gangrenous ovaries, the surgical method is the treatment of choice.\(^4\) Laparotomy or laparoscopy can be performed for removal of affected ovaries.

**CONCLUSION**

Two patients of torsion of ovarian cysts presenting as acute abdomen are presented. Their clinical features, diagnostic modalities, and management are discussed. Early diagnosis can salvage the ovary, but once gangrene sets in, salpingo-oophorectomy becomes inevitable.

**REFERENCES**