CASE REPORT

OVARIAN TORSION
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ABSTRACT
Ovarian cysts are common, frequently asymptomatic and often resolve spontaneously. It is important to differentiate between ovarian cyst that resolve spontaneously over a period of six months and those that persists for longer period and require assessment and management. Emergencies which may occur with ovarian cysts include torsion, rupture or hemorrhage.

Keywords: Ovarian torsion, gynecological disorder.

INTRODUCTION
Ovarian torsion refers to the complete or partial rotation of the ovary on its ligamentous support, often resulting in impedance of its blood supply\(^1,2\). Ovarian torsion is the 5\(^{th}\) common gynecological emergency with reported prevalence of 2.7\(\%\)\(^3\). In reproductive years regular growth of large corpus luteal cysts are a risk factor for rotation. In 80\% cases torsion happens unilaterally with slight predominance on right. This is because the large intestine cushions the ovary on the left whereas the right ovary has no such support\(^4\). Early diagnosis is essential as it facilitates a conservative approach when simple detorsion is possible with good functional health\(^5\). The clinical history is of acute onset pain that does not respond to analgesia, often with nausea, vomiting and systemic upset.

Ovarian torsion is unusual with adnexal mass \(<5\text{cm}\)\(^6\). However, there is no pathognomonic feature on ultrasound specific to adnexal torsion and a high degree of clinical suspicion is essential. Color Doppler has therefore been used to interrogate the adnexal mass suspected of undergoing torsion\(^1\). When ovarian cysts are diagnosed earlier a women can be treated by minimally invasive surgical procedure. Laparoscopy is an effective option. When expertise is not available or if cysts are too large or there is suspicious of ovarian damage than open surgery may be the only option\(^7\).

CASE REPORTS
Case No. 1
Mrs. Kulsoom w/o Jawaid Farrukh, 24 years of age married for three months having LMP of 20\(^{th}\) August 2012. Admitted through emergency on 25\(^{th}\) September with presenting complaint of pain in epigastrium and right iliac fossa since six days associated with vomiting for two days. There was no significant past medical or surgical history. Patient was anxious at the time of presentation with pulse of 100 beats per minute. On per abdominal examination tenderness was present in hypogastrum and both iliac fossa although there was no palpable pelvic mass. Bimanual examination revealed bulky uterus with fullness and tenderness in right fornix. There was no cervical excitation. She had hemoglobin 13.2 g/dl and WBC count 7300 c/mm and urinary β-HCG was negative. Ultrasound pelvis shows enlarged right ovary measuring 7.3×5.6 cm with large cyst measuring 4.8×4.6 cm. Emergency laparotomy was performed through right paramedian incision, preoperative findings were minimal peritoneal fluid and right ovary was hemorrhagic 6×4 cm, twisted. Abdomen closed back in layers. Postoperative period was uneventful. Histopathology revealed right ovary with corpus luteal cyst.

Case No. 2
Mrs. Rozina w/o Aslam, 34 years of age, married for 6 years, nulliparous having LMP of 1\(^{st}\) October 2012 admitted through emergency on 15\(^{th}\) October 2012 with presenting complain of severe lower
abdominal pain for two days. On general examination patient was anxious but vitally stable. Per abdominal examination revealed fullness and tenderness of right iliac fossa. On bimanual examination fullness and tenderness in right fornix and no cervical excitation. Regarding her investigation hemoglobin 12.3 g/dl, WBC count 8.1 and serum β-HCG <1.0 mIU/ml. Ultrasound shows enlarge left ovary 7.5×7 cm secondary to hemorrhagic cyst. Emergency laparotomy performed via pfannenstiel incision. Per operative findings were moderate peritoneal fluid, haemorrhagic left ovarian cyst about 8×7 cm twisted thrice on its pedicle. Left fallopian tube could not be identified separately. Right tube looked normal. Right ovary cystic and uterus was normal in size. Cyst was untwisted and salpingo-oophorectomy was done. Postoperative period was uneventful. Histo-pathology revealed hemorrhagic ovarian cyst.

**Case No. 3**

Mrs. Shahida w/o Saleem, 36 years of age, married for 22 years, para 7+3, LMP of 12th December, 2012 admitted through emergency with presenting complaint of pain in right iliac fossa and pain in hypogastrium since three days. Regarding her past obstetric history all were home deliveries. She had history of laparotomy in June 2008 due to ruptured left tubal ectopic pregnancy so left salpingo-oophorectomy as done with ligation of right fallopian tube general physical examination was unremarkable. On per abdominal examination abdomen was flabby. A mass in hypogastric region size with smooth surface and regular margins, fixed, firm and was tender. On bimanual examination fullness present in right fornix there was no cervical excitation. Her hemoglobin was 10.0 g/dl serum β-HCG <1.0 mIU/ml. Serum CA-125 10.5 ultrasound shows right ovary 7.1×5.1 cm and left ovary 7.4×2.8 cm, moderate amount of peritoneal fluid present in pouch of douglas. Due to persistence of intermittent sharp pain her laparotomy was performed. Operative findings were positive peritoneal fluid, left ovarian cyst 7.8×5.0 cm, right ovarian cyst 7×6 cm twisted 4 times on its pedicis adherent to broad ligament. Uterus covered in adnexitis with loops of bowel. Bladder was also not identified, bilateral oophorectomy was performed. Postoperative period was uneventful. Histopathology revealed right hemorrhage cyst and left hydrosalpinx.

**Case No. 4**

Miss Iqra d/o Ejazz Butt, 19 years of age, 4th among six siblings having LMP of 7th November, 2012 admitted through emergency with the presenting complaint of right sided abdominal pain on and off since 8 weeks and the pain was aggressive for the last 48 hours. On examination she was anxious and in pain. On per abdominal examination there was a mass arising from pelvis corresponding to 20 weeks of gestation. It was fixed, firm to hard in consistency and was non tender. Moderate tenderness was present in the lumber region. Here hemoglobin was 11.0 g/dl WBC count 8.1. Ultrasound KUB and pelvis owed right renal calculus 0.5 cm, mild hydronephrosis with multiple echogenic foci in collecting system. Right ovary enlarged 11.8×12.0 cm with right ovarian cyst 8.5×10.8 cm in right ovary.

Patient was referred by General Physician with ultrasound report for initial management as a case of renal calculi. Patient was managed conservatively. Nephrologist opinion was taken. Neither repeat urine examination nor ultrasound KUB showed any significant findings but showed similar results on repetition. Laparotomy was performed through sub umbilical incision. Operative findings were mild peritoneal fluid. Right ovarian cyst measuring 12×14 cm twisted four times on its pedicle. Cyst was untwisted and salpingo-oophorectomy was done. Left ovary was also enlarged and cystic biopsy was taken. Postoperative period was uneventful. Histopathology showed left ovary follicular cyst and right ovary benign mucinous cyst adenoma.
DISCUSSION
Ovarian torsion is an uncommon gynecological emergency that requires prompt recognition and treatment. It may present with nonspecific signs and symptoms and should be considered in any female with acute abdominal pain.

The first case of ovarian cyst with twisted pedicle was reported by Rokitansky, famous Viennese pathologist in 1841. Ovarian torsion is an acute gynecologic surgical emergency because prolong torsion can lead to infarction of the tube and ovary involved, if left untreated peritonitis and death may occur.

Evaluation of a female patient who is present with an acute abdomen must always include surgical and gynecological disorders. Surgical disorders include appendicitis, colitis, intestinal obstruction and gynecological problems. Disorders other than torsion include hemorrhagic cyst, ovarian hyperstimulation syndrome and endometritis etc. Acute appendicitis is the most common incorrect diagnosis but this diagnosis does not delay surgical intervention. Non-surgical diagnosis such as gastrointestinal infection or pelvic inflammatory disease delay surgical intervention and may lead to adverse consequences.

Patients with ovarian torsion have been present with abdominal pain and or pelvic pain in majority of the cases. The pain is sudden and progressively increasing but characteristics are variable. Nausea and vomiting are common in 58.85% of the cases and low grade fever in 20%.

Imaging is frequently used in management of acute abdomen. In gynecology, ultrasound has become the routine investigation for potential pelvic pathology and color doppler studies have been used to assess ovarian blood supply. Other imaging modalities such as contrast CT and MRI are rarely useful when ultrasound findings are inconclusive.

Despite 20 years of research, the accuracy of the preoperative diagnosis of ovarian torsion remains low. The preoperative diagnosis of ovarian torsion was confirmed only in 46%13. Thus direct visualization by laparoscopy is the gold standard to confirm diagnosis of ovarian torsion.

Failure to recognize this sequence of events may lead to an acute presentation with surgery resulting in a salpingo-oophorectomy as salvage of the ovary is not possible. However, with prudent diagnosis a laparoscopic removal of the ovarian cyst and plication of the infundibulopelvic ligament can salvage the ovary and prevents further torsion.

Experience laparoscopists may be able to manage an ovarian torsion through a laparoscope but a larger adnexal structure or relative inexperience with laparoscope will require conversation to laparotomy. Furthermore in patients where there are chances of malignancy, for e.g. a raised CA-125 (tumor marker) in the presence of endometrioma, a laparotomy may be appropriate. Detorsion with adnexal sparing is the treatment of choice for twisted ischemic adnexal and preferably performed by laparoscopy. Recently, detorsion has replaced salpingo-oophorectomy as the treatment of twisted ischemic adnexa.

REFERENCES
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