

Ovarian cyst rupture ovarian Torsion

Dr s.Hosseini

SBMU

Assistant Professor

introduction

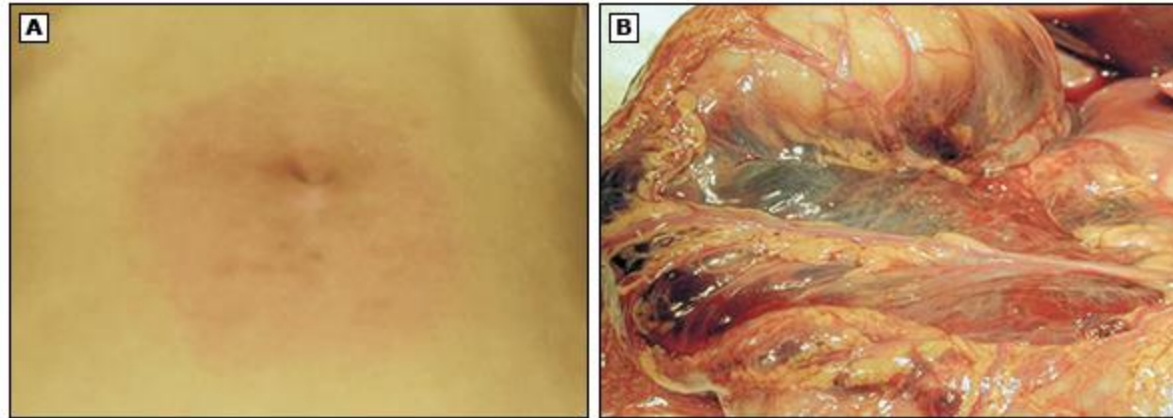
- common occurrence in women of reproductive age
- follicular cyst or corpus luteal cyst, or pathologic cysts may rupture (endometriomas, cystic components of benign or malignant neoplasms)
- release of cyst fluid or blood that may irritate the peritoneal cavity

- Ruptured ovarian cyst is most likely to occur in patients of reproductive age, but may occur in postmenopausal patients
- Risk factors for rupture of follicular or corpus luteal cysts are associated with **ovulation**
 - ↑ ovulation induction
 - ↓ use of estrogen-progestin contraceptive
- Vaginal intercourse appears to be a risk factor for ovarian cyst rupture

- **right ovary**
- **typically unilateral lower quadrant pain**
- **sharp and focal**
- **shoulder pain or upper abdominal pain is a feature due to subphrenic blood extravasation**
- **pain with sitting, possible due to psoas irritation**
- **irritant effect, stretching of the ovarian cortex**
- **visceral peritoneum may be more sensitive in some patients compared with others**

- **Serous or mucinous fluid**→
are not very irritating; the patient may remain asymptomatic despite accumulation of a large volume of intraperitoneal fluid
- spillage of sebaceous material upon rupture of a **dermoid cyst** causes a **marked granulomatous reaction** and **chemical peritonitis**, which is usually quite painful

Reddish discoloration, the so-called Cullen's sign, was seen around the patient's umbilicus •



MANAGEMENT

- Most patients with ovarian cyst rupture have an uncomplicated case and are candidates for observation
- Signs of hemodynamic instability – Hypotension, tachycardia
- Evidence of ongoing or heavy blood loss
- Signs of an infectious process
- Findings suggestive of malignancy

Heavy or ongoing blood loss

- patients who have a significant volume of hemoperitoneum and who have had a significant blood loss , it may not be immediately apparent if bleeding is ongoing or has stopped.
- tamponade from increased intraabdominal pressure
- If the patient has stable vital signs and a stable hematocrit suggest hospitalization and fluid replacement rather than immediate surgery

- frequent vital signs, serial hematocrit testing, and repeated pelvic ultrasound to monitor for an increased volume of blood
- large volume hemoperitoneum may take several weeks to resolve
- If on serial evaluation, the hematocrit continues to decrease or the patient becomes hemodynamically unstable → surgery

Surgical procedure

- **Laparoscopy** is the preferred surgical approach
- if laparoscopic equipment is not readily available or if the surgeon is not trained in operative laparoscopy, a laparotomy is appropriate.
- In a premenopausal patient with a benign ovarian cyst (physiologic or nonphysiologic), preservation of ovarian tissue via cystectomy is generally preferable to complete oophorectomy

Ruptured teratoma

- uncommon but has severe consequences
- Shock and hemorrhage are the immediate sequelae of rupture
- marked granulomatous reaction , formation of dense adhesions and chronic pain
- emergency surgery if a ruptured dermoid cyst is suspected
- suction of spilled ovarian cyst contents, copious irrigation with warmed normal saline and suction to eliminate any residual sebaceous material, and cystectomy.

Ruptured endometrioma

- If a ruptured endometrioma is suspected, the patient should be considered at an increased risk of bleeding
- This suspicion is typically based on a history of endometriosis or a finding consistent with an endometrioma on ultrasound.

- prevention of cyst rupture is not a surgical indication
- Hormonal treatments that suppress ovulation may prevent the development of new cysts.

Ovarian Torsion

introduction

- Torsion of the ovary, tube or both is responsible for between 2.7% and 7.4% of all gynaecological emergencies but is a common diagnostic challenge in the emergency setting
- It most commonly occurs in women of reproductive age (including during pregnancy) however, pre-pubertal girls and postmenopausal women can also be affected

signs and symptoms

Symptoms

General

Pelvic or abdominal pain,
fluctuating, radiating to loin or thigh

Nausea

Vomiting

Signs

General

Pyrexia

Tachycardia

Abdominal examination

Generalised abdominal tenderness, localised
guarding, rebound

Vaginal examination

Cervical excitation, adnexal tenderness,
adnexal mass

Differential diagnoses	History	Clinical features
PID	Sexually active	Non-migratory pain, bilateral tenderness, no nausea or vomiting
Appendicitis	Typically <40 years old	Migratory pain, anorexia, vomiting
Functional ovarian cyst	Natural cycles	Sudden onset, sharp stabbing pain
OHSS	History of ovulation induction	Bloating, pelvic pain, nausea and vomiting
Fibroid torsion	History of fibroids	Constant, severe pain
Renal colic	Generally idiopathic	Unilateral loin pain radiating to groin
Adnexal torsion	History of ovarian cyst, PCOS, ovulation induction	Intermittent, colicky acute pain, nausea, vomiting, pyrexia

Table 1. Scoring system for the identification of women with adnexal torsion³

	Criteria	Adjusted odds ratio (95%CI)
1	Unilateral lumbar or abdominal pain	4.1 (1.2–14)
2	Pain duration >8 hours	8.0 (1.7–37.5)
3	Vomiting	7.9 (2.3–27)
4	Absence of leucorrhoea/metrorrhagia	12.6 (2.3–67.6)
5	Ovarian cyst >5 cm by ultrasound	10.6 (2.9–38.8)

- The ultrasound appearance of torsion of a normal ovary can be highly variable, representing the dynamic nature of the pathophysiological process
- unilateral ovarian enlargement and oedema with peripherally arranged follicles(early sign)
- The affected ovary may appear as a solid mass with hypo- and hyperechoic areas in keeping with haemorrhage and necrosis (latter sign)

- The pedicle that is twisted may be seen as a 'whirlpool' that is visible both in grey scale and on colour Doppler increase the diagnostic sensitivity for torsion
- unilateral ovarian enlargement and oedema appears to be the most consistent finding in the literature.
- If there is a simple cyst within the ovary, the cyst tends to become haemorrhagic as the ovary undergoes venous congestion, so the fluid within it becomes more echogenic

- Normal ovarian tissue adjacent to the cyst also becomes oedematous and the borders of the ovary less well defined
- The tube may also be involved and may fill with haemorrhagic fluid
- complete absence of perfusion may be a relatively late event, so the presence of flow within the ovary does not exclude the diagnosis of torsion
- Coiling of the ovarian vessels may be seen in early or subacute cases

Management

- The surgical management of adnexal torsion is clearly determined by many factors in addition to the macroscopic appearance of the adnexum

Age

Menopausal status

presence of pre-existing ovarian pathology

Desire to preserve fertility

- clinical appearances of torsed adnexae do not correlate well with the likelihood of residual ovarian function and recovery
- there are good outcome data to support conservative management with laparoscopic de-torsion in the majority of cases even if the ovary appears dark purple or black
- The likelihood of preserving viable ovarian tissue with conservative surgery (de-torsion) decreases over time, with some evidence that pain for longer than 48 hours is associated with a significant decrease in successful outcome

- In all cases of adnexal torsion, the laparoscopic approach would be the preferred route in order to reduce admission time, postoperative pain and long-term risk of adhesion formation
- in older and postmenopausal women, oophorectomy is the treatment of choice to completely remove the risk of re-torsion.
- In the presence of a non-functional ovarian cyst, cystectomy or interval cystectomy should be performed in younger women

- Whether or not to perform oophoropexy when de-torsion of normal adnexae is performed is less clear
- In cases where recurrent torsion has occurred, oophoropexy has been shown to be effective in reducing the recurrence rate

fixing the de-torted ovary, or contralateral ovary, to the back of the uterus, or shortening of the utero-ovarian ligament.