

Adnexal Torsion in Post-Menopausal Women: An Even More Challenging Diagnosis

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Abstract

Adnexal torsion is usually diagnosed in pre-menopausal women and is less common in post-menopausal patients.

The presence of an adnexal mass is the primary risk factor for torsion. Adnexal masses in menopausal women are more likely to be malignant than those in young patients.

Symptoms are nonspecific and the risk of torsion in post-menopausal women is often undervalued, leading to delayed treatment.

The authors report a case of a post-menopausal woman who presented with pelvic pain and adnexal mass and underwent surgery with a clinical suspicion of ovarian malignancy in whom an ovarian torsion was found.

Gynecologists should be aware that adnexal torsion is not limited to women of reproductive age. Prompt diagnosis and intervention is required to prevent morbidity.

Keywords: Adnexal torsion, Post-menopausal, Ovarian malignancy

Introduction

Ovarian torsion is defined as partial or complete rotation of the ovarian on its ligamentous supports, often resulting in impedance of its blood supply. If the fallopian tube twists as well, it is referred to as adnexal torsion. ^[1]

It is the fifth most common gynecologic surgical emergency, with prevalence rates of 2.7 to 3%. ^[2]

Ovarian torsion can occur in females of all ages, however the highest prevalence occur in the reproductive years.

An ovarian mass is the primary risk factor for torsion, particularly a mass that is five centimeters or greater. ^[1-5]

Diagnosis poses a difficult challenge because the clinical presentation is variable, imaging features are nonspecific and physical examination is often unhelpful. ^[1,4]

Ovarian torsion is rare in post-menopausal women, and when a menopausal patient presents with pelvic pain, she will be evaluated for other diagnosis in mind. ^[3]

A high index of suspicion is required to make the diagnosis, leading to an early recognition and intervention in menopausal women.

The purpose of this article is to describe a case report of adnexal torsion in a post-menopausal woman and to discuss issues related to management of this situation.

Case Report

A 60- years- old post-menopausal woman presented at the Emergency Room with a three day history of persistent back pain, irradiating to the right groin. She had had fever

three days before, with no other genitourinary or gastrointestinal complaints.

She was hemodynamically stable and physical examination revealed a palpable abdominal mass in the right lower abdomen. Vaginal examination showed a large, irregular mass, firm in consistency with bulged *Douglas' cul-de-sac*. Gynecologic examination was notable for the absence of pain at uterus and adnexa manipulation.

Pelvic sonography showed a non-homogeneous, cystic, multiloculated mass (180x150 mm), anterior and right to the uterus. A 6 mm septum with vascular flow was seen in color Doppler imaging.

Pelvic computed tomography (CT) revealed an enlarged (160x140x60 mm) cystic, multiloculated, pelvic mass with irregular walls, located in a midline position (Figure 1); right iliac pelvic lymph node enlargement was also reported. No other lesions suggestive of peritoneal metastasis were noted. A thin line of free fluid was detected in the cul-de-sac.

Tumor serum marker CA 125 was positive (101.5 U/mL). An ovarian malignancy was hypothesized, elective surgery was scheduled and the patient was discharged with analgesic drugs.

Fourteen days after, an exploratory laparotomy showed a black bluish encapsulated mass arising from the right adnexa, with irregular surface and hemorrhagic appearance, attached to the right ovary with a 360° twisted pedicle (Figure 2).

A total hysterectomy and bilateral salpingo-oophorectomy were performed. Frozen section pathology showed a hemorrhagic adnexa with necrotic ovarian tissue (Figure 3). Definitive histology confirmed the absence of malignancy.

Discussion

Adnexal torsion can occur in females of all ages but has been more frequently described in women of childbearing

age and should be considered in any young women presenting with acute abdominal pain and pelvic mass.^[1-5]

This higher frequency in reproductive age women, compared with those at the extremes of age, is probably due to the increased occurrence of physiologic and pathologic ovarian masses, therapy for infertility and pregnancy.

Ischemia is the direct consequence of torsion. Complete occlusion of the ovarian blood supply will ultimately result in necrosis of the ovary, fallopian tube or the whole adnexa structure.^[4] This may adversely affect subsequent fertility in the case of young patients. More rarely, adnexal torsion may be the origin of potentially fatal complications due to necrosis and release of cytokines which can cause pelvic thrombophlebitis and peritonitis.^[4,5]

The classical presentation of ovarian torsion is the sudden onset of intense, localized right or left lower abdominal pain and tenderness.^[1-5] However, this type of abrupt start, typical of this situation, is not constantly referred and half of the patients will not experience it.^[4] Abdominal pain may be associated with radiation to the lumbar area due to the ovarian sensory innervation raising confusion with differential diagnosis of non-gynecological causes. Associated signs and symptoms such as nausea and vomiting can be present. On rare occasions, patients with adnexal torsion may have fever.

The presence of an ovarian mass is the primary risk factor for torsion, particularly when the size is five centimeters or greater.^[1-5] However, torsion of a normal ovary may occur, although is unusual and more common in premenarchal girls.^[4]

The right side is most frequently affected and this may be explained by the fact that the right utero-ovarian ligament is physiologically longer than the left, or by the presence of the sigmoid on the left which reduces the space needed for torsion to occur.^[1-5] Torsion is more likely to occur with benign cysts or neoplasms rather than malignant

lesions, possibly because malignant lesions are more likely to be fixed in place due to the presence of adhesions.

The low incidence of torsion in post-menopausal women may be the result of a decreased risk of benign ovarian masses and the overall higher rate of malignant adnexal masses in this population.^[2]

Sonography is usually the initial imaging modality performed when adnexal torsion or another gynecologic condition is suspected. The sonographic findings of adnexal torsion are nonspecific and include the presence of a cystic, solid or complex pelvic mass with or without mural thickening or the presence of ascites.^[1,7] Other imaging features are the presence of homogeneous cysts in the periphery of an enlarged ovary, Doppler flow manifestations or the whirlpool sign.^[8,9]

The only certain way to diagnose an adnexal torsion is by direct visualization of a rotated ovary at the time of surgery, whether by laparoscopy or laparotomy.^[4]

Classical treatment was adnexectomy, rather than untwisting the affected ovary.^[6,10] It was the standard treatment for years, mostly because of the theoretic fear of thromboembolic complications of ischemic adnexa. Conservative treatment consists of untwisting the adnexa, potentially followed by puncture of a cyst or cystectomy, and is currently recommended in pre-menopausal patients.^[4] In post-menopausal women, however, the option for total hysterectomy and bilateral salpingo-oophorectomy seems reasonable even though tumors may be benign.^[1,4]

When a pelvic mass is detected in a menopausal woman, the exclusion of more common diagnosis of pre-menopausal women (e.g. functional cysts, endometriosis, ectopic pregnancy) result in a much higher index of suspicion for malignancy. These assumptions will inevitably lead to a more challenging diagnosis and a delay in surgery. Besides nonspecific presentation and

variable imaging features, further delay can be caused by the use of analgesics to relieve pain and preparation the patient for elective surgery.

In a study from *Ram E. et al*, the median time for presentation to the Emergency Room and surgery was 8 hours (ranging from 2.5-30 hours) in pre-menopausal patients and 48 hours (ranging from 3-792hours) for post-menopausal patients.^[3] In our case report there was a 336 hours delay from presentation to surgery.

As consequence of this delay, malignancy can be missed, as more adnexa are found necrotic in post-menopausal women when surgery is performed and this results in under-diagnosis of malignancy on frozen section analysis.^[3,11]

Conclusion

The diagnosis of ovarian torsion remains a clinical enigma and no reliable method can confirm it preoperatively. Although it is generally considered an acute condition and a surgical emergency, adnexal torsion occasionally takes a sub-acute or intermittent chronic course, further complicating the diagnosis.^[7,12]

Post-menopausal women with adnexal masses are more likely to suggest malignancy and experience delay in surgical management than pre-menopausal ones, as demonstrated in our case report. This may occur because they tend to show a higher rate of complex masses upon ultrasound imaging and are operated with the intent of pelvic mass characterization and treatment, as opposed to pre-menopausal ones, in which adnexal torsion seems to be the assumed diagnosis.

Given that the symptoms and the signs are the same, a high index of suspicion is required to shorten this delay.

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Figure 1



Figure 1: CT demonstrates a large pelvic mass.

Figure 2

A



B



Figure 2: **A:** Intraoperative image demonstrates a black bluish ovarian mass and a 360° twisted pedicle. **B:** Another view of the twisted pedicle.

Figure 3

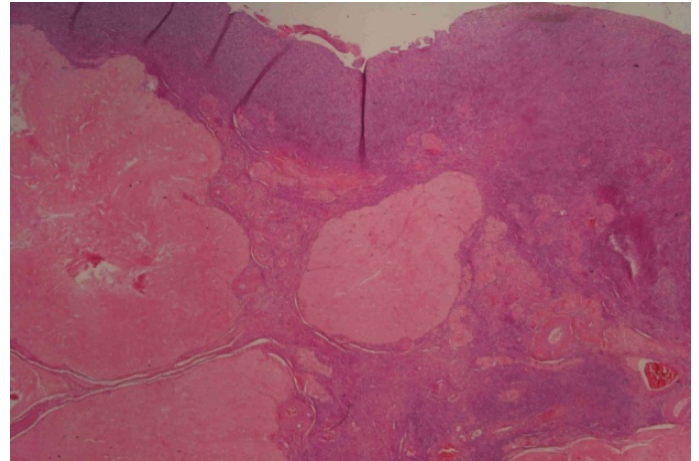


Figure 3: Histology of right ovary. Microscopy 2x. Fibrin and clots with no normal ovarian parenchyma observed.