Uncommon case of hydrosalpinx-induced adnexal torsion in a postmenopausal woman

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Abstract

Adnexal torsion is a twisting of the adnexa, including the ovary and/or the fallopian tube, around its own vascular axis. Most cases of adnexal torsion occur in women of reproductive age and only rarely in postmenopausal women. Here, we report a case of 58-year-old woman, postmenopausal for 6 years, who presented with acute lower abdominal pain. Ultrasound scan showed a right-sided, well-circumscribed, cystic mass measuring 50x57 mm with low level echoes. Doppler evaluation revealed no blood flow signals inside the mass. Abdominal exploration revealed right adnexal torsion. Salpingo-oophorectomy was done and histopathological examination revealed a twisted, gangrenous hydrosalpinx with no pathological lesion in the ovary. The patient was discharged on the fourth postoperative day. Although adnexal torsion in postmenopausal women is a rare event, it should not be ignored in those women who present with abdominal pain. A longer delay between admission and surgery may be attributed to the rarity and non-specific symptoms of the disease in this age group.

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Introduction

Adnexal torsion is defined as twisting of the adnexa, including ovary and/or fallopian tube, around its own vascular axis. However the torsion may also affect only the ovary or fallopian tube. Although the exact incidence of adnexal torsion is unknown, it was reported to be diagnosed in 2.7% of gynecologic emergent surgeries.[1] Most cases of adnexal torsion are in women of reproductive age; therefore, accurate diagnosis and treatment are essential to minimize ovarian injury and to preserve ovarian function.[3] However, on some rare occasions, it is reported during pregnancy[4] or in postmenopausal women.[5] Furthermore, torsion of para ovarian and para fimbrial cysts may also occur.[6,7]

The differential diagnosis of adnexal torsion includes a list of gynecological conditions, such as pelvic inflammatory

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disease (PID), twisted ovarian cyst and degenerated myoma, as well as non-gynecological conditions, such as acute appendicitis.[8]

Because the clinical symptoms of adnexal torsion are nonspecific, the diagnosis is considered to be difficult, and a correct preoperative diagnosis is made in only 44% of cases.[5] However, hydrosalpinx, a blocked, dilated, fluid-filled fallopian tube usually caused by a previous tubal infection, could be a risk factor.[9]

Here we report a case of a postmenopausal woman who presented with acute abdomen due to hydrosalpinx induced adnexal torsion.

Case history

A 58-year-old woman, para 4+0, postmenopausal for 6 years, presented with a 4-hour history of lower abdominal pain. The pain was constant and non-radiating. She was free from other medical problems apart from being hypertensive on regular treatment for nine years.

On general examination, the patient was conscious, pulse 106 beats/min, temperature 38 C, blood pressure 140/80 mmHg, with normal cardiovascular and respiratory systems. Abdominal and vaginal examination revealed a tense mass in the right adnexa. Ultrasound scan showed a right-sided, well-circumscribed, cystic mass with low level echoes measuring 50×57 mm. There was no free fluid in the Douglas pouch, and Doppler evaluation revealed no blood flow signals inside the mass.

The patient's white blood cell count was 10500/mm^3, and serum electrolytes, liver and renal function tests were normal. Due to a high suspicion of adnexal torsion with infarction, the patient was counseled on the possibility of oophorectomy. Written informed consent for abdominal exploration was obtained.

Abdominal exploration was done through Pfannenstiel incision under spinal anesthesia. During surgery, peritoneal lavage was obtained initially for cytological examination. Afterwards, the pelvis and upper abdomen were closely examined. Along with a small ovary, a right, tubal, rounded, cystic mass 5x5 cm; violet in color was identified (Figure 1). The mass was twisted twice on its pedicle (right adnexal torsion). The uterus and left adnexa were normal. No omental or peritoneal adhesions were found. No trials of detorsion were performed as the mass appeared to be gangrenous and the patient was postmenopausal. Right salpingo-oophorectomy was done, followed by closure of the abdominal layers with good homeostasis. No blood transfusion was needed.

Histopathological examination revealed a twisted, gangrenous hydrosalpinx with no pathological lesions in the ovary. Post-operatively, the patient was stable and the course of recovery was unremarkable. She was discharged on the fourth postoperative day.

Figure 1: Twisted gangrenous right ovary along with dilated fallopian tube (hydrosalpinx induced adnexal torsion)

Discussion

The wide differential diagnosis of an adnexal mass includes lesions of infectious origin, such as hydrosalpinx or tubo-ovarian abscesses caused by pelvic inflammatory disease (PID), endometriomas, both benign and malignant neoplasms, and physiologic or functional cysts and masses originating in organs adjacent to the adnexa.[10] The age of the patient, the history, the findings on physical examination, and the results of radiologic and laboratory studies are additional considerations to bear in mind when reaching a probable diagnosis.

Possible risk factors for adnexal torsion include tubal pathology (e.g., hydrosalpinx, paratubal cysts, neoplasms, ectopic pregnancy and congenital anomaly), ovarian masses, infection, or extrinsic lesions such as peritubal adhesions and endometriosis.[11] In spite of the large list of risk factors that can induce adnexal torsion; huge ovarian masses are still the most common risk factor for occurrence of this surgical emergency condition.[12,13]

In postmenopausal women, hydrosalpinx is usually due to fallopian tube malignancy or rarely PID. Chronic PID is a common inflammatory cause of adnexal masses.[14] In our case, no malignant cause was found on histopathological examination of the removed tube. Adnexal torsion is considered to be a difficult diagnosis before surgery, and the correct diagnosis is made in only less than half of the cases.[15] Because of the nonspecific signs and symptoms associated with ovarian torsion, a high index of suspicion is required when deciding whether to intervene surgically.[8]

As the presenting symptoms and signs in postmenopausal women are indefinite and nonspecific, the diagnosis of adnexal torsion is not often considered. In postmenopausal women with abdominal and/or pelvic pain, more common reasons for acute pain such as urinary tract infection, diverticulitis, peptic disease and cholelithiasis are usually suspected.[8] Ultrasonography (US) is important in such cases to exclude other causes and to confirm the diagnosis of torsion, especially if combined with Doppler evaluation of the adnexal blood flow.[16]

The US image associated with adnexal torsion often shows a unilaterally enlarged ovary with a cyst, but this is not always the case.[17] Both transvaginal US and Doppler have demonstrated partial success in diagnosing ovarian torsion.

In postmenopausal women, there is a long time interval between the onset of pain and admission due to a delay in referral for gynecologic evaluation. Eitan et al. demonstrated that postmenopausal women had an additional delay of 40 hours from admission to surgery, when compared with premenopausal patients.[18] This time interval could increase the probability of necrotic adnexa diagnosed at the time of surgery. Surgical delay in postmenopausal women can be explained by false diagnoses and additional presurgical workup for pelvic masses that is routine with a higher suspicion of malignancy and lower suspicion of torsion in those patients.[18]

The incidence of malignancy in premenopausal women with ovarian torsion is supposed to be low, with rates of 0.5% to 2.4% as reported in different studies.[19] This is due to the tendency of malignant masses to be fixed in place rather than to rotate freely. In contrast, in postmenopausal women, the occurrence of ovarian malignant neoplasm is high and the rate of diagnosed malignancy in cases of ovarian torsion is increased. Since this population has a much

lower need for ovarian preservation, performing salpingo-oophorectomy is logical to rule out malignancy and to prevent recurrence.[20] This was the basis for management in our case.

The management of adnexal torsion has changed dramatically in recent years, moving from an aggressive approach toward a more conservative one.[21] Now, patient age, fertility desire, menopausal status and evidence of ovarian disease are all factors considered in the management decision. Detorsion of adnexa and removal of any associated cysts are considered more appropriate in conservative approaches.[22] This is particularly ideal for premenopausal women. Detorsion is safe and ovarian function could be preserved in many women.

Radical approaches include salpingectomy and/or oophorectomy, and bilateral salpingo-oophorectomy with or without total hysterectomy. These are more suitable for postmenopausal women to exclude malignancy, as they commonly have complex, solid cystic masses with unclear symptomatology.[23]

Conclusion

Although adnexal torsion in postmenopausal women is a rare event, it should not be ignored in women who present with abdominal pain. A longer delay between admission and surgery in this age group may be attributed to the rarity and nonspecific symptoms of the disease.

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