

Uterine torsion presenting as acute abdomen in an elderly lady

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Background

Uterine torsion is a rare condition and usually presents as acute abdomen. It is defined as rotation of the uterus of more than 45° on its long axis [1]. The torsion may range from 45° to 180°, although torsion of up to 720° has been reported [2]. The condition is rare and has been reported mostly in pregnant ladies [3] due to subinvolution of the uterus and elongation of the isthmus. It is unusual in postmenopausal females as the uterus atrophy. Presence of a predisposing factor like a fundal fibroid is the key to the torsion, and depending on the factor the severity and morbidity of the disease manifests. We report a case of uterine torsion in an elderly lady due to a completely calcified fundal fibroid in an atrophic uterus and discuss the differential diagnoses and the challenge each poses to the surgeon.

Method/findings

A 65-year-old lady presented in the emergency room with complaints of a lump in the lower abdomen for 2 years and recurrent episodes of abdominal pain and vomiting for the past 3 months. She denied any history of fever, weight loss, and alteration of bowel or bladder habits. She was pale, dehydrated, and had tachycardia (102 beats/min) and hypotension (94/68 mmHg). On examination, a hard and tender lump (25×15 cm) having a smooth surface and restricted side-to-side mobility was found in the lower abdomen. A vaginal examination revealed an atrophic cervix and rectal examination was otherwise unremarkable barring anterior fullness. Her abdominal X-ray showed a huge calcified mass in the pelvis (Fig. 1). An abdominal ultrasonographic scan revealed a calcified mass closely associated with the posterior wall of the urinary bladder, but it failed to separately identify the uterus and adnexa. A transvaginal scan showed a thickened endometrium and a close association of the lump with the uterus; the adnexae could not be clearly defined. Due to nonaffordability, a CT scan could not be done. Based on the above, differential diagnoses of a twisted ovarian dermoid, a calcified fibroid, or a huge calculus in a bladder diverticulum were considered.

Exploratory laparotomy revealed a huge and almost completely calcified uterus (about 28 week in size) with gangrenous changes. It had undergone a two and a half axial twist (900°) from left to right on its narrow isthmus, twisting the adnexae which were also gangrenous and dragging the right ureter very close to its twisted neck (Fig. 2). The twist was undone, the right ureter was carefully separated, and a subtotal hysterectomy was done at the level of isthmus along with bilateral salpingo-oophorectomy. An electric saw was required to section the

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Fig. 1 Abdominal X-ray showing a huge calcified mass arising out of the pelvis

specimen, which showed a completely calcified intramural fundal fibroid (Fig. 3).

Discussion

The exact etiology of uterine torsion is not known. Predisposing factors include intra-abdominal adhesions, ovarian tumors, intramural fibroids, laxity of uterine ligaments during pregnancy, fetal malpresentation, anatomical anomalies of the uterus [4], and even following



Fig. 2 Torsion of the uterus producing gangrenous changes of the uterus and adnexa



Fig. 3 Cut section of the uterus (after formalin fixation) showing a completely calcified and well-encapsulated intramural fundal fibroid with congested and gangrenous uterine wall, hemorrhagic endometrium, and gangrenous adnexa

abdominal trauma [5]. Certain bizarre body movements or posture may precipitate the torsion in the presence of a pre-existing uterine or pelvic pathology [6]. It has been proposed that poor healing of a caesarean section scar in the lower uterine segment leads to isthmic elongation and suboptimal restoration of cervical length. This causes abnormal angulation of the isthmus leading to torsion [7], venous engorgement, edema, widespread hemorrhagic infiltrates in the pelvis, and uterine distension with blood or pus. Subsequently adhesions may develop with the bowel or omentum. When arteries are compromised, gangrenous changes take place.

Clinically it has an acute and chronic presentation. An acute case presents with acute abdomen and needs emergency surgery. The chronic cases are more difficult to diagnose because they present with clinical features mimicking more common pathologies like twisted ovarian tumor, hemorrhage in an ovarian cyst, and fibroid degeneration during pregnancy and, additionally, in about 11% cases the torsion is asymptomatic [3]. Clinical features include transmitted painful cervical movement during vaginal examination. In women presenting in labor, failure of cervical dilatation despite uterine contractions and fetal distress inappropriate to uterine contractions are two telltale signs of uterine torsion. Vaginal bleeding, a twisted vaginal canal, and urethral displacement are seen in severe cases [3]. In ultrasonographic scan, a change in placental

localization or position of a fibroid may be present [1]. A pelvic magnetic resonance imaging scan is helpful in the diagnosis of torsion, provided an X-shaped configuration of the upper vagina is seen [8]. Others have considered a whorled appearance of the adnexa as a diagnostic sign in computerized tomography scan [4]. Despite a wide spectrum of signs suggestive of torsion, most cases are diagnosed after laparotomy.

Conclusion

In the present case, the abdominal sonographic scan was not informative due to the presence of extensive calcification. However, a transvaginal scan picked up the thickened endometrium, which was inappropriate for her age and menopausal status, and—as a hind thought—this observation points towards a uterine pathology. The rarity of an extensive rotation (900°) is highlighted as it has not been reported before. The fundal position of the calcified fibroid, which had made the organ ‘top heavy’, and laxity of ligaments due to old age probably predisposed to the torsion.

Uterine torsion has a 12% overall perinatal mortality rate [3] and needs urgent intervention. Uterine preservation is the aim in pregnancy. In early pregnancy, the uterus should be manually untwisted at laparotomy. At term, the torsion should be managed by manual derotation followed by delivery by caesarian section. If derotation is not possible, the fetus is first delivered by a transverse posterior hysterotomy followed by manual correction [9]. Predisposing factors should be looked for and corrected if possible. Plication of uterosacral ligaments has been described to keep the uterus anteverted and prevent recurrence [9]. In the presence of gangrene, hysterectomy remains the only option. Although most reports deal with torsion in pregnancy, few actually describe the treatment in women past the childbearing age. Here, the choice of treatment may

be less conservative. Presence of a uterine pathology, like fibroid, justifies hysterectomy. Even in absence of any apparent cause, we strongly believe in its removal rather than derotation and fixation, since the organ has no function in the elderly and preservation may invite recurrence. A subtotal hysterectomy has been advocated [10] in the emergency situation, when excision is done through the elongated isthmus, as the procedure is simple, rapid, less hemorrhagic, and more aseptic.

Declaration of interest The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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