Sigmoid colon volvulus immediately after ultrasound-guided simple ovarian cyst aspiration: a case report

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KEYWORDS
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Abstract  Introduction: This report describes sigmoid volvulus in an otherwise healthy young patient with a large ovarian cyst that was drained under ultrasound guidance. We report this case to draw attention to the fact that decompressing of a large pelvic mass might predispose to sigmoid volvulus. As far as we know there are no other reported cases showing sigmoid volvulus happening immediately after aspiration of a pelvic cyst.

Case presentation: A 23-year-old, nulligravid woman underwent an Ultrasound-Guided aspiration of a simple Rt. ovarian cyst measuring 8 cm that persisted for 2 months. About 30 min after the procedure she reported abdominal pain moderate in severity, given analgesia and was sent home; several hours later she reported no improvement and attended to the emergency room, and CT scan was done that showed a sigmoid volvulus that was managed by sigmoidoscopy after which she reported a sudden relieve of her pain and constipation.

Conclusion: Clinicians should bear in mind such complication (Sigmoid volvulus) while draining a pelvic cyst as this procedure is adapted by some clinician as it is less invasive than surgical management of persistent simple ovarian cyst.

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1. Introduction

Volvulus is a torsion of a segment of the alimentary tract, that often leads to intestinal obstruction. The most common sites of volvulus are the sigmoid colon and cecum. Anatomic features predisposing to sigmoid volvulus include a redundant sigmoid colon that has a narrow mesenteric attachment, but the exact pathogenesis underlying sigmoid torsion has not been well known. Volvulus mostly occurs in elderly patients, often those
who are institutionalized and debilitated with neurologic and psychiatric conditions, but it has been reported in many other settings including pregnancy (1,2), Crohn’s disease (3), colonic hypertrophy associated with a high fiber diet (4), and Chagas disease (5). Most of patients with sigmoid volvulus present with abdominal pain, nausea, abdominal distension, and constipation; vomiting is not common. However, some patients (especially younger patients) will have a more insidious presentation with recurrent attacks of abdominal pain, that resolve presumably due to spontaneous detorsion (6). Diagnosis is usually a combination of clinical manifestation and abdominal imaging studies such as Plain abdominal X-rays that may reveal evidence of sigmoid volvulus in 65 percent of the patients (7,8). CT scan, MRI, and sigmoidoscopy were also used to establish the diagnosis in remaining patients. Once diagnosis is made we have to detors the volvulus because of the fact that Compromise of the blood supply to the sigmoid colon can lead to gangrene which leads to peritonitis and sepsis. Luckily, the majority of patients seek medical attention prior to the development of gangrene and in most of the cases detorsion was usually achieved by sigmoidoscopy.

2. Case report

A 23-year-old, nulligravid woman was scheduled for an Ultrasound-Guided aspiration of a simple Rt. ovarian cyst (Image 1) measuring 8 cm (unilocular, thin wall, cystic, no septation and no ascites) that persisted for 2 months and associated with amenorrhea (urine pregnancy test at the day of cyst aspiration was negative); CA-125 was less than that 10 IU/ml. The ultrasound-guided aspiration of the cyst was performed by a senior gynecologist under general anesthesia, and after cleaning the vagina using povidone solution a Cook Echotip single-lumen (K-J-ANC-16R-35) needle was inserted at the center of the cyst under direct vaginal ultrasound guidance and complete aspiration of a clear yellow fluid was achieved; the cyst wall collapsed, patient recovered well from anesthesia and, 30 min after the procedure she reported abdominal pain moderate in severity, given analgesia and sent home. 8 h later she came back to the emergency room complaining of persistent abdominal pain with complete inability to pass stool or flatus, which was luckily seen by the clinician who performed the cyst aspiration; she felt irritable and so it was evaluated by surgeon and he requested an abdominal X-ray for her that showed a suspicion of intestinal obstruction, so CT-scan was done that showed a sigmoid volvulus; and 2 h later sigmoidoscopy was performed and detorsion was done with sigmoidoscopy. Immediately the patient reported a significant improvement in terms of the abdominal pain, distension and the absolute constipation. Next morning the patient was well and discharged from the hospital. One week later the patient was seen in gynecology clinic as an out-patient and pelvic ultrasound was performed to check whether the cyst refilled due to persistent fluid production, and fortunately the cyst does not refilled and collapsed and is seen by surgeons as well to assess for the sigmoid volvulus that she had; she is well and recovered completely from the sigmoid volvulus and the possibility of its recurrence is very minimal.

3. Discussion

Sigmoid volvulus is thought to happen when a loop of the sigmoid colon twists around its mesentery. Obstruction of the intestinal lumen and impairment of vascular perfusion occur when the degree of torsion exceeds 180 and 360, respectively (9).

The majority of patients with sigmoid volvulus present similar to the patient presented above with gradual onset of progressive abdominal pain, nausea, distension, and constipation. (10) Plain abdominal radiographs may help the diagnosis; however, CT, magnetic resonance imaging, and flexible endoscopy are more accurate. Several radiologic diagnostic signs are described, such as omega or horseshoe sign, bird’s beak sign, Y sign, northern exposure sign, coffee bean sign, bent inner tube or ace of spades sign, left pelvic overlap or left flank overlap sign, liver overlap sign, the whirl sign, and empty left iliac fossa sign.

Surgeons generally advise a 2-step approach, first an endoscopic derotation followed by a subsequent elective surgical correction by colopexy. Sigmoidoscopy is the initial treatment for those patients without peritoneal signs.

Factors that may predispose to sigmoid volvulus include a long sigmoid colon with a narrow mesenteric attachment and colonic motility problems. Constipation may cause elongation and dilatation of the sigmoid colon predisposing patients to sigmoid volvulus. Colonic motility problems may predispose to torsion of the sigmoid colon (8).

High incidence of sigmoid volvulus has been reported in South America, Africa, and India, which has been attributed to the higher-fiber diet (11). Pregnancy increases the incidence of sigmoid volvulus as well because the enlarging uterus can cause a redundant or abnormally long sigmoid colon. (12) A large ovarian cyst might also cause an abnormally elongated sigmoid colon. Drainage of the cyst would predispose to volvulus.
As far as we know there are no other reported cases showing sigmoid volvulus happening immediately after aspiration of a pelvic cyst.

This report describes sigmoid volvulus in an otherwise healthy young patient with a large ovarian cyst that was drained. We report this case to draw attention to the fact that decompressing of a large pelvic mass might predispose to sigmoid volvulus.

Conflict of interest

No conflict of interest.

References