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(CASE REPORT)

Bilateral torsion of an ovarian dermoid cyst in a nullipara, exploratory laparotomy, right ovariectomy and left cystectomy: A case report

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Abstract

Background: Ovarian torsion is a common gynecological emergency prompt diagnosis and treatment results in favourable outcome. This may be unilateral or bilateral in rare cases. However, bilateral Adnexal torsion (AT) is a gynecological emergency which occurs in approximately 2.7-3.5% of women of all ages globally.

Aim: To present this uncommon clinical condition and offer management modality.

Presentation of case: AC was a 28 -year- old nulliparous woman, who presented to our institution with a history of sudden onset of severe lower abdominal pain and nausea**.** On physical examination, she was acutely ill-looking, in mild painful distress, and her vital signs were within normal limits. On abdominal examination, there was no distension but there was lower abdominal tenderness, with muscle guarding. A pelvic examination revealed bilateral adnexal tenderness. Ultrasound examination showed a right ovarian cyst of size about 9 × 7 cm poor visualization of the left ovary. An impression of torsion of right ovarian dermoid cyst was made. She had exploratory laparotomy for ovarian torsion, right ovariectomy and left cystectomy. Her post-operative period was uneventful and was discharged in her 6th post-operative day in stable clinical state.

Conclusion: We have presented 28-year-old nullipara who had bilateral ovarian and laparotomy with cystectomy. Prompt intervention of similar cases results in better prognosis.

Keywords: Ovarian torsion; Laparotomy; Cystectomy; Oophorectomy

1. Introduction

Ovarian torsion is a common gynecological emergency defined as the partial or complete rotation of the adnexa around its vascular axis that may cause an interruption in the ovarian blood and lymphatic flow [1]. It has been reported that this lesion occurs in women aged between 20 and 30 years in approximately 80% of cases and represents 18 to 20% of benign ovarian tumors. Usually, dermoid cysts are unilateral, but they are bilateral in 10 to 15% of cases [2,3]. The most common cause of ovarian torsion is a dermoid cyst and its diagnosis is based on clinical presentation and imaging. Suspicion of ovarian torsion requires an emergency surgical intervention to prevent ovarian damage. We report a rare case of bilateral ovarian torsion treated by laparotomy with unilateral oophorectomy, ovarian detorsion, and cystectomy on the other side with the aim of preserving her menstrual flow and fertility.

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2. Case presentation

AC was a 28 -year- old nulliparous woman, who presented to our institution with a history of sudden onset of severe lower abdominal pain and nausea. The severity of pain was described as 9 on a visual analogue scale of 10. It was constant, sharp and did not radiate. She also had episodes of vomiting which was non projectile and contained recently ingested food. She had one week before presentation, experienced a similar episode of pain at the right iliac fossa which was diagnosed as a case of appendicitis in another hospital but she declined surgery due to lack of funds and the pain resolved with analgesics and antibiotics.

She was otherwise well and there were no other associated gastrointestinal or genitourinary symptoms. She had not been admitted in any hospital for any illness, had no allergies and not on any medication. Her menarche commenced at the age of 12 years and menstrual cycles had been regular until in the past six months when she noticed some irregularities. She was not married but recently met a suitor whom she intends to marry in the next six months as a second wife.

On physical examination, she was acutely ill-looking, in mild painful distress, and her vital signs were within normal limits. On abdominal examination, there was no distension but there was lower abdominal tenderness, with muscle guarding to both light and deep palpation but no rebound tenderness. The bowel sounds were present and normoactive. A pelvic examination revealed normal external genital tract but there was bilateral adnexal tenderness. She was admitted and blood samples were collected for full blood count, serum electrolytes, creatinine and urea, and pregnancy test. Urinalysis and abdominal ultrasonography were requested. Her full blood counts, serum electrolytes, creatinine and urea were within the normal limits. Urine analysis and pregnancy test were negative. Bedside abdominal ultrasound examination showed a right ovarian cyst of size about 9 × 7 cm. Iceberg effect was noticed in it and there was no comment by the sonologist about the left ovary. An impression of torsion of right ovarian dermoid cyst was made. She signed an informed consent after being counselled on her condition. The treatment modalities for exploratory laparotomy for ovarian torsion, cystectomy, and possible oophorectomy was explained to her. During surgery bilateral torsion of ovarian cysts was found both located at the right side. Her left ovary looked devitalized and was found to be twisted twice over. The right side was twisted once.

Figure 1 Finding at Laparatomy

Detorsion of both ovaries was performed but the appearance of her left ovary did not improve. Improvement was noticed in the colour of the right ovary. A left-salpingo-oophorectomy and right cystectomy was performed. The samples were sent for histopathology. Her postoperative period was uneventful, and she was discharged after five days and advised to report back to the clinic after four weeks when the histopathology report would have been obtained. She reported for follow-up at the clinic and the result of the pathologic diagnosis which showed mature ovarian teratoma

(dermoid) was explained to her. She was concerned about her fertility and she was further counselled to allay her anxiety. She recovered completely from her surgery and was advised to resume her normal daily activities.

3. Discussion

An ovarian dermoid cyst (benign cystic teratoma) is the most common germ cell tumor of the ovary [4]. It has been reported that this lesion occurs in women aged between 20 and 30 years in approximately 80% of cases and represents 18 to 20% of benign ovarian tumors. Usually, dermoid cysts are unilateral, but they are bilateral in 10 to 15% of cases [2,3]. On histologic examination, they are composed of variable proportions of tissue originating from the ectoderm, mesoderm, and endoderm [5]. The index case is 28 years of age and presented with bilateral dermoid cysts.

Adnexal torsion (AT) is a gynecological emergency which occurs in approximately 2.7-3.5% of women of all ages [6]. The incidence of AT tends to decrease with age after peaking in the late 20s to early 30s [7] It presents as acute lower abdominal pain, nausea and vomiting as found in the index patient. The underlying pathophysiology involves torsion of the ovarian tissue on its pedicle leading to reduced venous return, stromal oedema, internal hemorrhage and infarction with the subsequent sequelae such as hormonal dysfunction, menstrual irregularities, and infertility [8].

Early diagnosis and adequate management are essential to prevent long-term complications, unfortunately, the diagnosis is often delayed due to late presentation, time-consuming referrals, and late surgical intervention [4-7]. Even in early presentations, attempts for salvage of an ovary have had only meager results of approximately 10% in adults [9,10]. Other complications associated with dermoid cyst include rupture and suppuration but are uncommon [11]. Although several investigations were done preoperatively, the most useful was the abdominopelvic ultrasonography which demonstrated unilateral ovarian cystic mass with the tip of the iceberg sign which is diagnostic of dermoid cyst is the appearance of a hyperechoic area, the base of which cannot be visualized. This is the result of a mass made up of matted hair and sebum casting an echogenic shadow [12] The drawback with this imaging study is that the interpretation of the images is dependent on the experience of the imaging scientist hence he could not report any pathology on the right ovary [13] Color flow Doppler mapping would have helped localize the tumor torsion with a diagnostic accuracy of 87% was not done because of the non-availability of the appropriate equipment and technical know-how [14].

Surgical intervention is indicated in cases of dermoid cyst especially if it is complicated as in this case [15]. After discussing the risks and benefits with the patient, an exploratory laparotomy with left salpingo-oophorectomy, ovarian detorsion, and cystectomy on the right side was carried out.

Preservation of her fertility was a concern to the physicians hence the cystectomy at the viable side. Although it was preserved, a study has shown that women who had salpingo-oophorectomy carried a 53.9% increased risk of infertility [16].This is very important because even after the right side was detorsed, the functionality of the ovary could not be guaranteed since the duration of the torsion was not known. The best option is to try as much as possible to preserve both ovaries and maintain full fertility or save as much of an ovary as possible to maintain a degree of fertility, especially in a nulliparous women prior to marriage.

Another concern in this case as a retrospective case was that she was the delay in the diagnosis in the peripheral hospital prior to her referral where she was managed conservatively for an inflamed appendix with antibiotics and analgesics.

It is recommended from this case report that proper evaluation of patients and early surgical intervention carried out to prevent complications. Torsion should be suspected particularly in the right ovary, as this could be easily misinterpreted as an acute appendicitis.

4. Conclusion

We have reported a rare case of bilateral dermoid ovarian torsion in a young woman and highlight the need for early intervention because of the subsequent future reproductive career.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

The authors declare that they have no conflict of interest.

Statement of informed consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

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