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Case Report

Giant Haemorrhagic Left Ovarian Cyst Torsion in the Late Postpartum Period: A Case Report

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Abstract

Ovarian cysts are common and affect females of all ages; most cysts are managed conservatively, but could require a surgical intervention when complicated. Torsion of an ovarian cyst is the 5th most common gynecological emergency presenting at the adult emergency. Although ovarian cysts are common, diagnosing a giant ovarian cyst is rare, and even rarer in the peri-partum period, because of the advent and common use of ultrasonography. We presented the case of a 34-year-old P2 (2A) who presented 46 days postpartum with symptomatology that began while she was in her last trimester. She was diagnosed with a giant haemorrhagic cyst that was complicated by a 540-degree torsion, for which she had an emergency laparotomy. The surgery was successful, and the sample was sent for histology. The result of the histology confirmed the diagnosis; she was discharged home 3 days after the surgery. This case showed the possibility of a giant cyst coexisting with pregnancy; and clinicians, need a high index of suspicion to make the diagnosis.

***Keywords**: Giant Ovarian Cyst; Haemorrhagic; Torsion; Emergency; Postpartum*

Introduction

Ovarian cysts are common through all stages of the female life; from in utero to childhood, pre-pubertal, pubertal, pregnancy, puerperium, pre-menopausal, and post-menopausal stages of life [1,2]. Most ovarian cysts arise during infancy and adolescent stages of life and they are common conditions seen in gynaecological and obstetrics clinical practices [2-4]. They are common causes of pelvic masses, and the lifetime risk of women developing a pelvic or adnexal mass is 20%, and about 2% of cysts occur during pregnancy [3-6].

Usually, every month during ovulation, a fluid-filled liquid or semi-liquid sac is formed in one or both ovaries, these cysts could be physiologic or pathological, though this usually resolves spontaneously but some could persist and become large enough to give symptoms [1,3,6]. Usually, when a cyst is less than 5 cm in diameter, it gives no symptoms, but when a cyst's largest diameter is greater than 4 cm, it usually becomes symptomatic. A giant cyst, however, is described as a cyst that is larger than 10 cm in its widest diameter or that which could be palpated above the umbilicus [2,5,7,8].

However, the availability of improved imaging modalities and detailed examination has made it more difficult to encounter giant ovarian cysts nowadays as cysts are frequently diagnosed earlier [4,5]. These big cysts could be complicated by events like; rupture of the cyst, bleeding into the cyst (haemorrhage), and Torsion of the cyst amongst other complications [9,10]. Managing an ovarian cyst would vary for each patient and presentation, we, therefore, present a case of a giant, haemorrhagic ovarian cyst that underwent torsion in a 34-year-old multiparous woman in the immediate postpartum period.

Case Study

We present a 34-year-old P2 (2 Alive) who presented 46 days postpartum with about 3 hours of left lower quadrant pain that was sudden in onset. The pain was said to be sharp at onset, colicky, and severe enough to disturb her normal daily activity. There was no known relieving or aggravating factor. She had a similar history that started 5 months before presentation, when she was in the third trimester, and the pain did not entirely abate but was on and off, and it became increasingly worsened, especially in the last six weeks prior to presentation. However, the most recent episode of that pain was so severe necessitating her presentation at the hospital. The pain was referred to the back; on a scale of 1-10, she described the pain as 10, and it was relieved after the administration of a parenteral analgesic.

She presented at the emergency with an ultrasound report that revealed a normal-sized uterus measuring 9.37 x 4.65 x 6.87 cm with intramural myoma (Image 1). There is a large thin-walled anechoic cyst arising from the left ovary and spanning across the midline, no solid component is seen, adjacent to it is a slightly vascular round soft tissue appearing as a target sign, likely to be a vascular pedicle of a large left ovarian cyst (Image 2). The right ovary is normal and the Pouch of Douglas is devoid of fluid.

Image 1: *Ultrasound image showing the uterus and the uterus.*

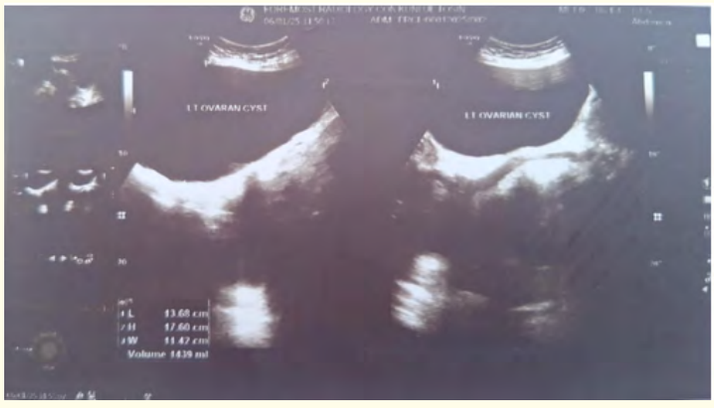

Image 2: *Ultrasound picture showing the enlarged left ovarian cyst and its measurement.*

At admission, she was conscious and in severe painful distress, with about a 20-week-sized abdominopelvic mass, with tenderness at the right iliac fossa with guarding, but no rebound tenderness or rigidity. Other examinations did not reveal anything significant. Investigations done included complete blood count, electrolytes, urea and creatinine, serology, grouping, and cross-matching of a unit of blood. Consent was obtained for an emergency exploratory laparotomy and, the surgery was done and, the findings at surgery included; increased peritoneal fluid; a huge left hemorrhagic ovarian cyst measuring about 20 x 14 x 10 cm as seen in Image 3 with a 540 degrees twist of the left adnexa, with a very dusky left fallopian tube and ovarian ligament distal to the torsion (Image 3 and 4). The torsion was relieved, but the organs distal to the twisted appendage remained dusky after 5 minutes of relieving the torsion (Image 5). The patient had an ovariectomy of the left ovary with its appendage and was sent for histology.

Image 3: *Showing the huge haemorrhagic cyst.*

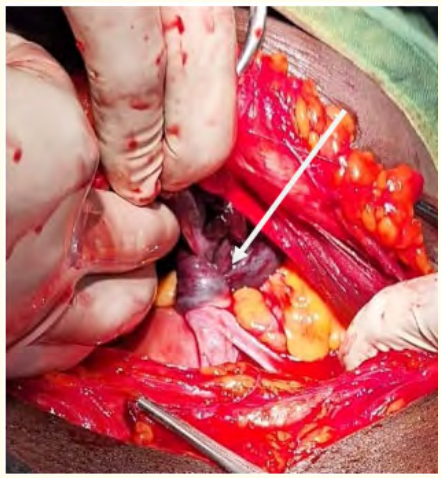

Image 4: *Showing torsion of the left appendage.*

The histology report revealed that the specimen consists of a tan brown mass measuring 20.0 cm x 16.0 cm x 12.0 cm with an attached haemorrhagic fallopian tube measuring 7 cm in length and 1.5 cm in diameter and weighing 1.8 kg. The cut section shows an unilocular cystic cavity containing about 1 litre of haemorrhagic fluid. The cyst wall thickness ranges from 0.5 cm to 1.5 cm. On microscopy, the wall of the cystic ovary shows predominantly denuded epithelium. The areas of intact lining show granulosa and theca cells. A benign mesenchymal lesion composed of fascicles of smooth muscle with abundant eosinophilic cytoplasm and central cigar-shaped elongated nuclei. Atypical cells are not seen.

Image 5: *Showing the left giant haemorrhagic cyst.*

Discussions

An ovarian cyst is a sac that originates in an ovary and filled with liquid or semiliquid secretions. It is a common gynecological problem, and the frequency of diagnosis has increased due to the routine use and advancements in ultrasound scans [1]. However, giant ovarian cysts are rare in occurrence due to the aforementioned reason; therefore, it is difficult to know the incidence or prevalence of a giant cyst, though they are more seen within the third to sixth decade of life and also amongst post-menopausal women. A giant ovarian cyst is described as a cyst that is more than 10 centimeters in its largest diameter [4,11]. The torsion of an ovarian cyst is the fifth most common gynaecological emergency presenting at the adult emergency amongst adult women [12].

Largely, ovarian cysts are divided into 2 classes: physiological and pathological cysts. The majority of ovarian cysts are physiological, also known as functional cysts [4,6]. Functional cysts mostly arise following the normal monthly ovulation process, and it usually resolve after some time; these functional cysts are classified into follicular and corpus luteum cysts [13]. Haemorrhagic cysts are mostly and usually functional cysts, and only a very few are neoplastic, but the majority are universally benign [14]. Haemorrhagic cysts develop when bleeding occurs into a follicular or a corpus luteum cyst.

When a small vessel in the wall of the cyst ruptures, bleeding into the cyst (haemorrhagic) or the peritoneum (cyst rupture) may occur. Bleeding from small vessels is usually self-limiting and leads to a change in colour of the cyst contents and, sometimes without pain or tenderness. It is worth noting that, due to the elastic quality of the tunica layer of the ovary, there may not be any symptoms as it may continue to increase in size. If not picked early, bleeding may continue into the cyst resulting in a giant cyst, as in the index case report. In situations where larger vessel ruptures, severe pain can arise either from massive intraperitoneal bleeding or rapid cyst distension [4,14].

An ovarian cyst can cause the torsion of the suspensory ligament of the ovary and its accompanying vessels, leading to the twisting of the ovary, fallopian tube, or both, and this leads to impaired blood outflow and later inflow to the structures culminating in the necrosis of those structures, if not relieved early [9,12]. Torsion usually leads to severe pain causing the patient to present at the gynaecology emergency and torsion is the most likely the reason this patient presented, especially, considering the size of this cyst. Though the cyst's size and content might not necessarily point to it as the sole reason for the patient's severe pain, which prompted her to present at the emergency, the gangrene and torsion of the organs do.

Diagnosing a patient with haemorrhagic and ovarian torsion is challenging due to the various acute emergency that could mimic its presentation, but careful and detailed clerking, examination and with good ultrasonography with or without a colour doppler, the diagnosis can be much easier. Other investigations done that could make diagnosis clearer include a pregnancy test, a Computed Tomography (CT) scan, and a Magnetic Resonance Imaging (MRI). The other adjunctive investigations include: a complete blood count, an electrolyte urea and creatinine, grouping and crossmatch of blood, Erythrocyte Sedimentation Rate and, CA 125 [7,11-13]. These investigations would help to rule out differential diagnoses like ectopic pregnancy, tubo-ovarian mass of PID, endometrioma and solid ovarian neoplasm, etc.

Management of an ovarian cyst could be conservative or surgical. Usually, simple cysts less than 5 cm in their widest diameter and without symptoms are successfully managed conservatively [1,2,11]. However, cysts with a diameter greater than 4 cm are more likely to develop complications and might need surgical intervention; thus, when the diagnosis of a giant ovarian cyst is made ruling out malignancy, surgical management is usually instituted, especially when complicated by a torsion. The surgical management could be via laparoscopy or by laparotomy [1,7,9,13,14].

The surgical procedure for managing ovarian cysts would differ depending on the diagnosis made and the findings at surgery. The surgical intervention could include untwisting the mass, assessing the viability of the tissue, and cystectomy to preserve the normal ovarian tissue and restore the ovary to near-normal anatomy. A unilateral oophorectomy is also applicable and, in some instances, a possible removal of the accompanying appendage. In the case of a ruptured ovarian cyst or a haemorrhagic cyst presenting with shock, the management of shock will be instituted immediately and, then surgical management of the ruptured cyst [9,10,15]. The patient discussed had a unilateral oophorectomy with partial salpingectomy because of the nonviability of the tissues despite waiting for 5 minutes.

Conclusion

Torsion of a giant hemorrhagic ovarian cyst, though rare in the postpartum period, should be considered in women presenting with acute abdominal pain either in the early or late postpartum as suggested in her history. This case highlights the importance of maintaining a broad differential, ensuring a diligent careful history, meticulous examination and, important investigations to aid diagnosis in the postpartum period. Ovarian cyst, even a giant one, remains a valid differential of acute abdominal pain while pregnant and also in the puerperium.

Declarations

Informed consent was obtained from the patient for publication of this case report with accompanying images.

Conflict of Interest

None declared.

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