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Case Report

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ADNEXAL TORSION DURING THE POSTPARTUM PERIOD: A CASE REPORT

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ABSTRACT

Ovarian torsion (OT) is a relatively uncommon gynecological emergency, and its occurrence in the postpartum period is even rarer. This case report presents the unique clinical journey of a 29-year-old woman who was urgently referred for pelvic pain on postpartum day 20 following an unmonitored home birth. Despite the absence of specific symptoms, the patient's condition deteriorated rapidly, prompting medical attention. Clinical evaluation revealed a distended abdomen with diffuse tenderness and a palpable abdominal mass. imaging through ultrasound and abdominopelvic CT scan disclosed a massive cystic mass with suspected ovarian torsion. Prompt surgical intervention via laparotomy confirmed the diagnosis, revealing a voluminous cyst originating from the right ovary with a three-fold spiral torsion and intracystic hemorrhage. Subsequent adnexectomy of the left ovary was necessary due to its necrotic appearance, resulting in a 16 kg surgical specimen. This case underscores the importance of considering ovarian torsion in the differential diagnosis of postpartum pelvic pain and highlights the challenges in diagnosing this condition given its rarity and non-specific presentation. Early recognition and timely intervention are essential to preserve ovarian function and ensure optimal patient outcomes.

KEYWORDS: Ovarian torsion; Post partum.

1. INTRODUCTION

Adnexal torsion (AT) is a well-documented yet often overlooked medical condition that can involve the ovary alone or in association with the fallopian tube, or less frequently, the fallopian tube alone.[1] It ranks as the fifth most common gynecological emergency, with a reported prevalence of 2.5% to 7.4% of all gynecological emergencies.[2]

During pregnancy, adnexal masses such as ovarian cysts are common, affecting approximately 0.2% to 2% of pregnancies.[3] These cysts can be small and asymptomatic, but those larger than 5 cm with a solid component on imaging are more likely to be non-functional.[4]

Diagnosing AT during the postpartum period is often challenging due to non-specific clinical symptoms and a presentation similar to other postpartum-related issues. It is crucial to pay special attention to women experiencing acute abdominal pain after childbirth, as a delayed diagnosis of ovarian torsion can lead to irreversible ovarian necrosis.

Here, we present the case of a 29-year-old patient in whom the torsion of a large postpartum ovarian cyst was suspected based on clinical and ultrasound findings, and subsequently confirmed through exploratory laparotomy.

2. CASE PRESENTATION

Our patient is Ms. A.T, 29 years old, with no significant medical history, G6P6, urgently referred to our facility due to pelvic pain on postpartum day 20. She had delivered a healthy baby at home through a vaginal delivery. The pregnancy was not monitored, and the patient did not have an ultrasound.

According to the patient, after her last delivery, her abdomen remained larger compared to previous deliveries. Then, on the 17th day of the postpartum

period, three days before her admission, she noticed a gradual increase in the size of her abdomen (Figure 1).

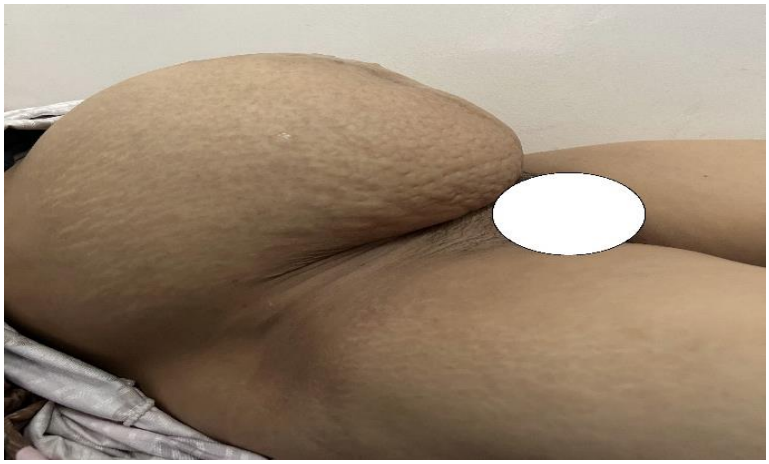

Figure 1: Clinical aspect of the abdominal mass.

Her symptoms worsened on the same day as her admission, with acute abdominal pain, without fever, vaginal bleeding, or abnormal vaginal discharge.

The clinical examination revealed a conscious patient, afebrile at 37.4°C, normotensive at 120/73 mmHg, tachycardic at 100 bpm, and tachypneic at 26 bpm. The abdomen was highly distended with diffuse tenderness, and palpation identified a large, firm abdominal mass.

The laboratory tests showed a mild anemia with a hemoglobin level of 9.5 g/dl, while white blood cell and platelet counts were within normal range.An emergency ultrasound was performed, revealing a well-defined, left-sided uterine adnexal mass, measuring 45 cm in length, with thin wall and an anechoic content (Figure2).

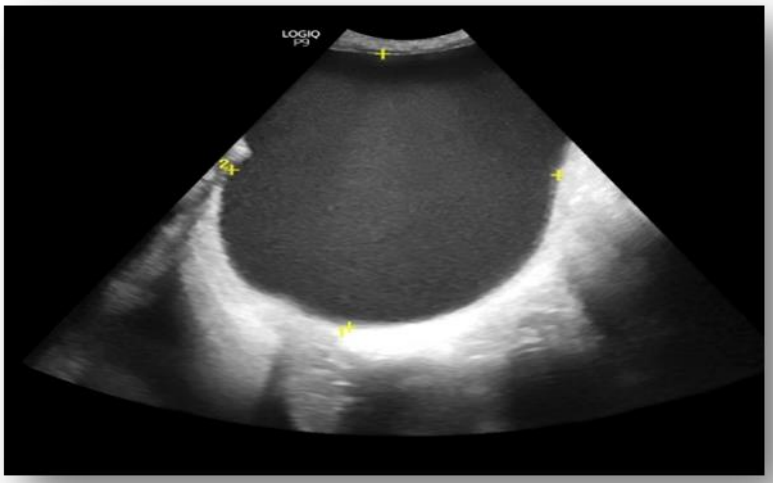

Figure 2: Ultrasound showing a left sided uterine adnexal mass.

We further complemented with an abdominopelvic CT scan, which revealed a midline supravaginal abdominal and pelvic cystic mass with a thickened wall, without septa or endocystic vegetations. Its dimensions measured 30/21/17 cm, and it made contact at the lower part with the left ovary, which measured 45 mm in its largest dimension (Figure 3).

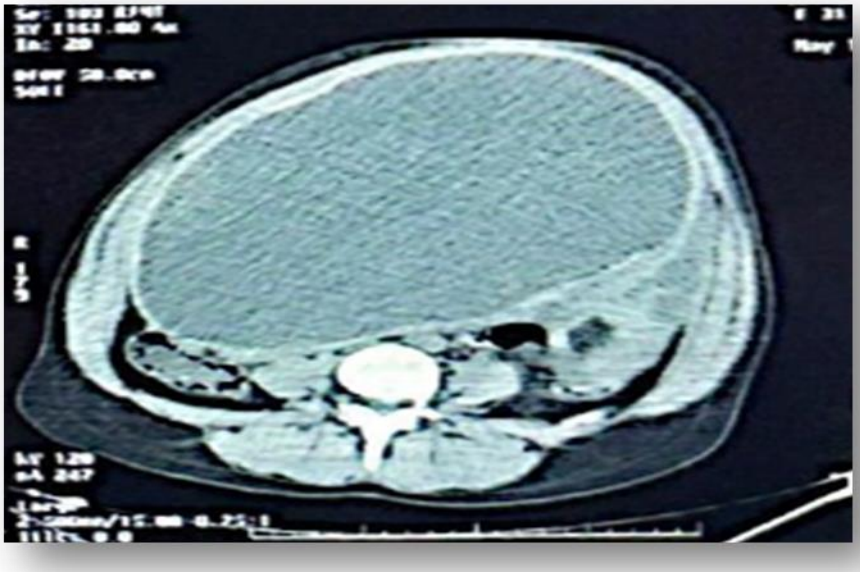

Figure 3: Axial abdominopelvic computed tomography image showing presence ovarian mass.

We suspected an adnexal torsion on an ovarian cyst, and the patient was taken to the emergency operating room for a laparotomy. The laparotomy confirmed the diagnosis by revealing a large cyst affecting the right ovary, with a torsion of three spiral turns accompanied by intracystic hemorrhage (Figures 4 and 5). The uterus and left adnexa were normal, and the rest of the exploration did not reveal any anomalies.

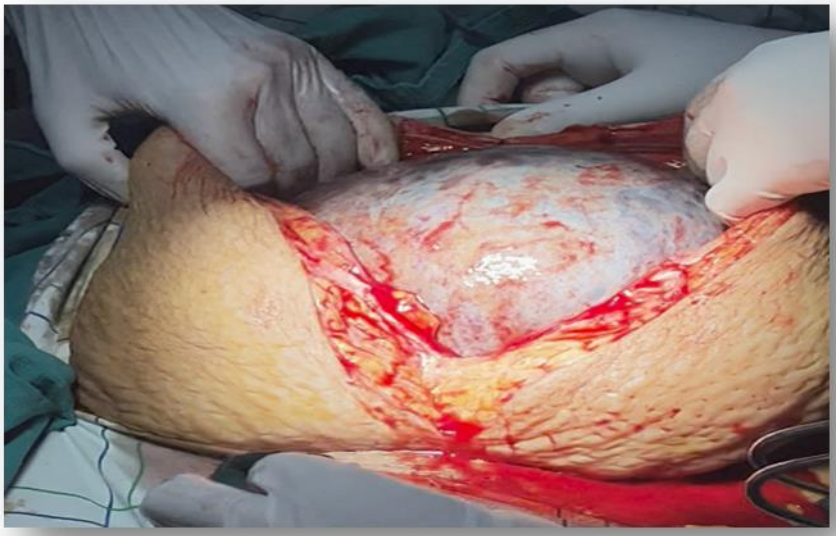

Figure 4: Incision from in the lower abdomen up to the umbilicus.

Figure 5: Intraoperative view showing a torsion of three spiral turns.

We initially performed adnexal detorsion. However, due to the necrotic appearance of the ovary, we decided to proceed with a left adnexectomy. The surgical specimen weighed 16 kg and measured 45 cm along its largest axis (Figure 6).

The histopathological examination confirmed the presence of a serous cystadenoma.

Figure 6: Surgical specimen after left adnexectomy, weighing 16 kg and measuring 45 cm along its largest axis.

3. DISCUSSION

Adnexal torsion is a rare gynecological emergency defined by the rotation of the adnexa around its vascular pedicle, formed by the infundibulopelvic ligament and the tubo-ovarian ligament, by at least one turn. It can involve the ovary or more rarely the fallopian tube alone.[1]

The presence of an ovarian mass or cyst is a risk factor for ovarian torsion and represents the main cause of this condition.[2]

The prevalence of ovarian masses during pregnancy is increasing, primarily due to the greater utilization of ultrasound during prenatal visits. However, adnexal torsion during pregnancy or in the post partum remains uncommon, with only a handful of reported cases.

The occurrence of ovarian masses during pregnancy is between 1% and 2%. Adnexal torsion is even rarer, with an incidence of 3% in pregnancies with ovarian masses.[4] It primarily occurs in 80% to 90% of cases during the first two trimesters, less frequently in the third trimester, and very rarely in the postpartum period.[10]

During the postpartum phase, ovarian torsion predominantly takes place within the three weeks following a vaginal delivery.[11]

From a pathophysiological standpoint, the occurrence of adnexal torsion in the postpartum period can be explained by the physiological uterine involution that occurs within 12 days following childbirth, and the relaxation of its supporting structures. This process leads to overstretching of the ligaments, increasing the mobility of any existing ovarian mass, thereby raising the risk of torsion.[12] There are two etiopathogenic theories: either the ovarian mass existed before pregnancy, in which case it is likely of organic origin, or it developed during pregnancy due to hormonal influences, in which case it is likely a functional cyst.[5]

The clinical diagnosis remains challenging because there are no specific clinical signs for torsion, making clinical evaluation alone insufficient to make the diagnosis. This difficulty is further compounded in the postpartum period, as the clinical signs of torsion are also present in more common and specific conditions associated with this period.

Ovarian torsion is typically suspected on clinical presentation, characterized by severe, sudden onset of unilateral lower abdominal pain, tenderness, a palpable pelvic mass, and nausea/vomiting.[13]

These symptoms overlap with various other potential causes of acute abdomen, both gynecologic and non-gynecologic (such as postpartum endometritis, ruptured ovarian cyst, renal colic, appendicitis, and diverticulitis).

In certain cases, patients may experience intermittent pain, further complicating the diagnostic process.[14]

Ultrasound, although lacking positive signs for torsion, remains the primary examination. It eliminates differential diagnoses and looks for signs of ischemia.[6]

It is frequently the initial diagnostic approach for gynecological emergencies and proves valuable in diagnosing ovarian torsion. A twisted ovary typically presents as enlarged and congested, and ultrasonography allows for an assessment of the preexisting ovarian mass causing the torsion by examining its components, location, and size.

Doppler sonography can reveal decreased or absent vascularity in a twisted ovary.[15] However, the sensitivity and specificity of doppler studies in ovarian torsion cases are not well-defined.[16] The presence of a "whirlpool sign," where a twisted vascular pedicle with circular vessels is observed on doppler, is considered to have good sensitivity for detecting ovarian torsion.[17]

The sole detection of blood flow on Doppler ultrasonography of the adnexa demonstrates a limited negative predictive value. The presence of normal flow does not rule out torsion, as evidenced by a study indicating that 60% of surgically confirmed cases of torsion had normal Doppler flow.[18]

MRI is a reliable alternative to ultrasound, especially for pregnant women. The simultaneous use of Doppler and MRI improves diagnosis without delaying surgery.

It reveals characteristic indicators, such as heightened ovarian volume accompanied by stromal edema and a peripheral arrangement of ovarian follicles. Additionally, there is thickening of the fallopian tube, along with the pathognomonic whirlpool sign.[19]

The prevalent ovarian masses are primarily the benign ones, with cystic teratomas or dermoid cysts being the most common. Instances of malignant ovarian masses during pregnancy are comparatively rare.[20]

A literature review made by Aggarwal et Al. has made a histopathological analysis of 548 cysts in pregnancies removed at surgery, dermoid was the most common, accounting for 34.6% of cases, followed by cystadenoma in 23.5%, while malignant ovarian tumors presented only 2.5% of cases.[21]

Ultimately, a definite diagnosis of ovarian torsion requires direct visualization, necessitating surgical confirmation.

Surgery can be done by laparotomy or laparoscopy, with the latter becoming more and more popular. Although, is there is there is a suspicion of malignancy, a laparotomy is preferred.[22]

Historically, the preferred approach was oophorectomy rather than a conservative one, with the decision based on direct visualization of the ovary 10 minutes after detorsion. Conventionally, dark and enlarged ovaries were indicative of non-viability. However, recent studies, such as the one by SB Cohen et al., challenge this notion. Among 58 patients with twisted adnexa displaying macroscopic signs of ischemia, necrosis, and hemorrhage, treated by detorsion, subsequent long-term follow-up revealed that ovarian function was preserved in 54 of 58 patients, accounting for 93.1% of the cases.[23] Suggesting that the conservative approach should become the traditional one.

4. CONCLUSION

In conclusion, ovarian torsion, particularly in the postpartum period, presents a diagnostic challenge due to the absence of specific clinical symptoms. The condition is relatively rare, but its potential complications necessitate prompt intervention. Imaging modalities, particularly ultrasonography, play a crucial role in the diagnosis, yet definitive confirmation remains intraoperative. The etiopathogenesis involves the displacement of adnexa secondary to physiological

changes, increasing the risk of torsion. Treatment remains surgical with the conservative approach becoming more popular.

5. ACKNOWLEDGMENT
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6. COMPETING INTERESTS
Authors have declared that no competing interests exist.

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