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Case Report

Acute Abdomen in Pregnancy Due to Ovarian Torsion: A Case Report

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ABSTRACT

Introduction: Acute abdomen from ovarian torsion is a rare complication of pregnancy. This case report highlights the place of ovarian torsion as a cause of acute abdomen in pregnancy, management challenges, importance of early diagnosis and the need for prompt intervention. **Case presentation:** A 30-year-old primiparous woman at 18 weeks of gestation presented with complaints of abdominal pain and vomiting. She was in distress with generalized abdominal tenderness and guarding. Abdominal ultrasound showed a cystic mass in the right hypochondrion. A diagnosis of acute abdomen in pregnancy was made and she had an emergency laparotomy and right salpingo-oophorectomy with findings of a twisted haemorrhagic right ovarian mass. Histology of the ovarian mass showed a matured (benign) cystic teratoma. **Conclusion:** Acute abdomen in pregnancy is an obstetric emergency. Diagnosis is often unclear due to a long list of differentials. Uterine size, changes in maternal physiology and fetal considerations may pose further management challenges Ovarian torsion should be considered early. Management should be multidisciplinary and timely surgical intervention provided for optimal maternal and fetal outcomes.

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INTRODUCTION

Acute abdomen is a rare complication of pregnancy.[1,2] It poses significant and unusual management challenges due to the vast number of differential diagnoses available, varied spectrum of clinical presentation, anatomical and physiological pregnancy changes, fear of miscarriage, concerns about exposure of pregnancy to radiation, use of general anaesthesia and the need for laparotomy in a pregnant woman.[3,4]

Acute abdomen in pregnancy (AAP) may be due to obstetric causes such as ectopic pregnancy, miscarriage, round ligament pain, degenerating fibroids, ovarian torsion, abruptio placentae and uterine rupture.[3-6] Pregnancy is known to predispose to ovarian torsion, though not common.[7] AAP could also be due to non-obstetric surgical causes such as acute appendicitis, cholecystitis, pancreatitis, peptic ulcer disease, bowel perforation and intestinal obstruction.[3-6] It could also result from non-obstetric medical causes such as gastroenteritis, gastro-oesophageal reflux disease, pyelonephritis, urinary tract infection.[3-6]

Many of these conditions are life-threatening, hence the need for prompt diagnosis and treatment.[4] However, interpretation of clinical features is usually distorted because of the physiological changes of pregnancy while a detailed physical examination may be hindered by an enlarged uterus in the second and third trimesters. Results of laboratory investigations should be interpreted with caution in pregnancy. They may be non-specific and analysis is with due consideration of the effects of pregnancy on various

parameters. The use of some radiological investigations like the computerized tomography (CT) scan and magnetic resonance imaging (MRI) is further challenged by the fear of exposing the fetus to ionizing radiation and/or contrast. This often creates some dilemma, thereby delaying diagnosis and subsequent intervention. Since acute abdomen may warrant surgery in the pregnant woman, the increased risk of general anaesthesia and the fear of miscarriage or preterm labour pose another challenge.

This case is presented to emphasize ovarian torsion as a cause of acute abdomen in pregnancy, identify the management challenges as well as highlight the importance of early diagnosis and prompt intervention.

CASE PRESENTATION

Mrs. A. E. was a 30-year-old G2P1+^{0} (1A) who presented at 18 weeks 6 days of gestation with complaints of abdominal pain of two days duration and vomiting of one day duration. Abdominal pain was of insidious onset, severe, sharp and initially localized in the lower abdomen but later became generalized. Vomiting started the following day and she had 10 episodes. The vomitus contained recently ingested food. There were no fever, vaginal bleeding, fainting attacks or lower urinary tract symptoms. Pregnancy was booked at a primary health facility; antenatal visits were regular and pregnancy had been uneventful. She was not a known hypertensive or diabetic.

On examination, she was in painful distress, afebrile (36.4^{0}c), not pale. Her vital signs were normal. Her abdomen was full and moved with respiration. There was generalized tenderness and guarding. Vulva and vagina were normal and cervix was closed. An urgent abdominal ultrasound scan revealed an intrauterine pregnancy of 18 weeks 6 days with a right hypochondrial cystic mass that was abutting on the liver with a hyperechogenic mass within it with no vascular flow on Doppler interrogation (Figure 1). Her full blood count was normal. An assessment of acute abdomen in pregnancy was made. She was counselled on the findings.

General surgeons were invited, and they reviewed and participated in her surgery. She subsequently had an emergency exploratory laparotomy under general anaesthesia. Operative findings included a gravid uterus about 18 weeks size, right ovarian mass measuring 15x8x6cm with haemorrhagic and necrotic wall (Figures 2 and 3). The mass was twisted three times in the clockwise direction on the ovarian ligament and the ipsilateral uterine tube. The uterine tube was engorged and hyperaemic with active bleeding from the fimbrial end. Postoperatively, she received intravenous fluids, analgesia, antibiotics and oral nifedipine for tocolysis. She had a calm and uneventful postoperative period. She was discharged home after 6 days. At discharge, an obstetric ultrasound scan revealed a live fetus and a closed internal cervical os. Histology of ovarian tissue revealed a mature cystic teratoma with areas of haemorrhage and necrosis.

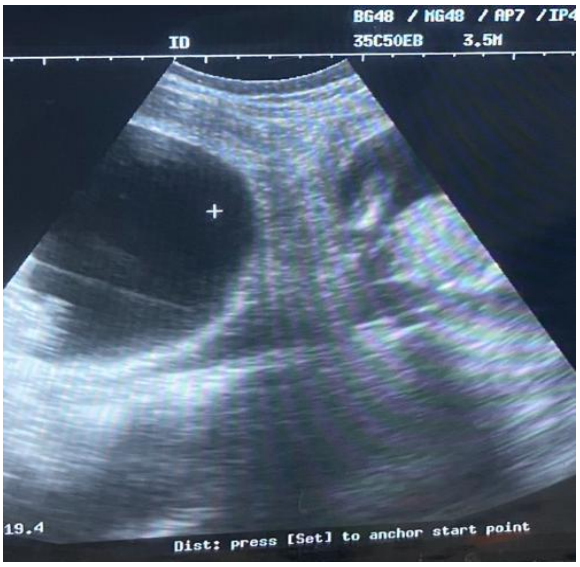

Figure 1 Ultrasound finding of intrauterine pregnancy with a right adnexal cystic mass

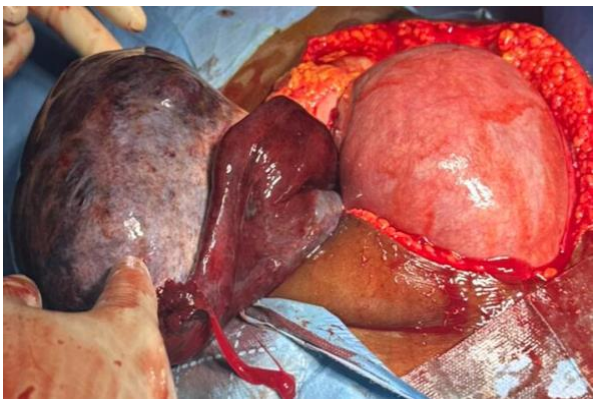
Figure 2 Gravid uterus and ovarian mass at laparotomy

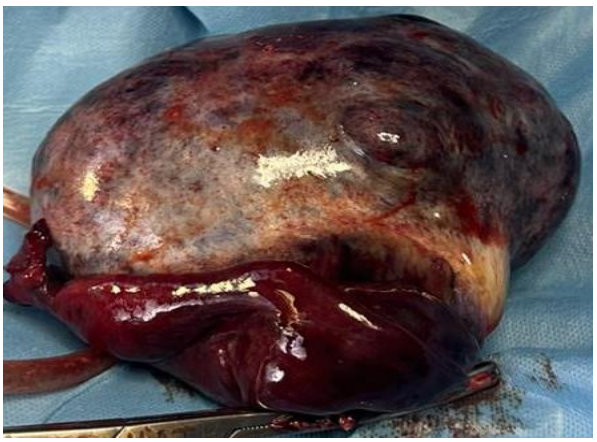
Figure 3 Excised ovarian mass

DISCUSSION

The term acute abdomen refers to any serious acute intra-abdominal condition accompanied by pain, tenderness, and muscular rigidity, for which emergency surgery should be contemplated.[3]It can be challenging in terms of patient presentation, evaluation, diagnosis and treatment.[8] The incidence of the acute abdomen during pregnancy has been reported as one out of every 500–635 pregnancies and some 0.2%–1% of expectant mothers will require non-obstetric surgical interventions.[9]

Torsion of the ovary is the total or partial rotation of the adnexa around its vascular axis or pedicle. Although the exact cause is not known common predisposing factors include moderate size cysts, free mobility, and long pedicle.[10] Even though ovarian torsion is rare in pregnancy it has been reported that its incidence is increased up to 5 fold in pregnancy with a reported incidence of 5 in 10000.[10] It occurs more commonly on the right than the left due to the presence of sigmoid colon on the left and more in the first trimester including early second trimester precisely between 6 to 14weeks.[11] It has been reported that as many as 1–4% of pregnant women are diagnosed with an adnexal mass, and the majority of the masses are functional or corpus luteum cysts and spontaneously resolve by 16 weeks gestation.[12] Some pathologic cysts could also be found in pregnancy the most common ones include benign cystic teratoma (21%), serous cystadenoma (21%), cystic corpus luteum (18%), and mucinous cystadenoma.[12] The histopathologic examination of the ovary removed in the patient presented revealed a mature cystic teratoma.

The patient's clinical presentation was somewhat atypical as she presented 2 days after the onset of the abdominal pain, which had become generalized with tenderness, rigidity and guarding. The ultrasound scan revealed an intrauterine pregnancy of 18 weeks 6 days with a right hypochondrial cystic mass that was abutting on the liver with a hyperechogenic area within it with no vascular flow on Doppler interrogation. This presented a diagnostic dilemma due to the numerous differential diagnoses. These diagnostic challenges have been previously highlighted.[13]

Management of torsion in advanced pregnancy is like that in a non-pregnant patient but may be technically more difficult due to the size of the gravid uterus.[14] A multidisciplinary approach, involving especially the general surgeons as in the case presented, is advocated for better outcomes. Several options have been documented, ranging from a conservative approach to laparoscopic surgery. However, the option of exploratory laparotomy was preferred in the case presented since the diagnosis was uncertain. In addition, due to the required urgency, limited resources and unavailability of facilities to carry out the comprehensive radiological investigations, exploratory laparotomy was considered the most appropriate intervention. The patient and her relatives were appropriately counselled before the surgery.

An extended midline incision was made due to the gravid uterus to avoid excessive manipulation of the uterus, which may predispose to miscarriage. In ovarian torsion, the key factor is to perform detorsion as quickly as possible and it is advocated that effort be made to conserve the affected ovary. For our patient, the ovary was twisted three times around its pedicle in the clockwise direction. After a delayed detorsion, there were no signs of viability. A unilateral salpingo-oophorectomy was therefore carried out. In addition, adequate analgesics as well as tocolytics were given were given to prevent miscarriage.

In conclusion, acute abdomen in pregnancy is an obstetric emergency. Diagnosis is often unclear due to a long list of differentials. Ovarian torsion should be considered early. Management should be multidisciplinary and timely surgical intervention provided for optimal maternal and fetal outcomes.

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