

Caesarean Splenectomy for Spontaneous Rupture of the Splenic Artery Aneurysm in Pregnancy: A Case Report

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Citation: Mayuri Jaiswal, Shalini Malhotra, Sanam Nachan, Razia Zafar, Shivani Vohra, Loula Mohammad. Caesarean Splenectomy for Spontaneous Rupture of the Splenic Artery Aneurysm in Pregnancy: A Case Report. *Int Clin Med Case Rep Jour*. 2023;2(9):1-4.

Received Date: 14 March, 2023; **Accepted Date:** 20 March, 2023; **Published Date:** 22 March, 2023

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ABSTRACT

This is case of a 38-year-old Iraqi lady, multigravida, pregnant at 38 weeks 5 days, who presented to Gynecology emergency with complaints of upper abdominal pain and vomiting following food intake from outside. After symptomatic treatment for the upper abdominal colic, patient was not relieved with CTG started showing early variable deceleration, she was admitted for observation. Despite stabilization in labor room, fetal heart recording deteriorated and emergency cesarean section was done. After entry into the abdomen, hemoperitoneum was found, unrelated to the uterus or adnexa. With the help of surgical team a ruptured splenic artery aneurysm was found as a cause of the major intra peritoneal bleed. Splenectomy was done with massive lifesaving blood transfusion. The patient had an uncomplicated postoperative course, and was discharged home with healthy baby after 10 days of hospital stay. In view of the high mortality and morbidity associated with ruptured Splenic Artery Aneurysm (SAA) in pregnancy, early recognition and prompt intervention are crucial for maternal and fetal benefit. **Keywords:** Pregnancy; Abdominal pain; Vomiting, hemoperitoneum, Splenic Artery Aneurysm.

INTRODUCTION

Rupture of a splenic artery aneurysm (SAA) is a rare condition that occurs predominantly in pregnancy. It is associated with a maternal mortality rate of 75% and fetal mortality rate of 95%. We report a case of ruptured splenic artery aneurysm during the third trimester of pregnancy with both maternal and fetal survival.

Outside of pregnancy, SAA was first reported by Beaussier in 1770. Since the 1900's, we have come a long way and at least 400 cases of SAA have been described throughout history, nonetheless, the entity is still regarded vague in its entirety. Splenic artery aneurysms are the third most common true aneurysm, after aortic and iliac artery aneurysms, representing 60% of visceral artery aneurysms. It should be noted that the prevalence of SAA in females of childbearing age is less than 0.1% . Splenic artery aneurysm specific risk factors include a varied entity ranging from arterial medial fibro dysplasia that entails renal artery stenosis and secondary hypertension, as well as any hepatic, splenic, or even pancreatic pathology. Splenic artery aneurysm rupture during pregnancy, a rare but serious obstetrical complication, was first reported in the literature by the Danish obstetrician Sylver Saxtorph in 1803. The highest risk of rupture for a splenic artery aneurysm is during the third trimester, accounting for 69% of ruptures, typically in the last two weeks of pregnancy; 12% of ruptures occur during the 1st and 2nd trimesters, and 13% occur during labor with 6% occurring postpartum. There are many different faces to how a splenic artery aneurysm can present in pregnancy, and more often the presentation is significantly misleading: True aneurysms can be silent and asymptomatic; whereas, pseudo aneurysms are always symptomatic. Patients with SAA are more often asymptomatic, with only 20% presenting with symptoms, mainly nonspecific complaints including vague epigastric or left upper quadrant abdominal pain radiating to the left shoulder. Of the 400 reported cases on splenic artery aneurysm in pregnancy, only 12 have been reported with the survival of both mother and fetus.

CASE STUDY

38-year-old Iraqi lady Gravida5Para4 with 38 weeks 5 days gestation of pregnancy with unscarred uterus with irregular Antenatal follow up was admitted from emergency to Labor Room at 23:20 hrs. On 27/2/2022. Patient complained of upper abdominal pain and vomiting with history of taking food from outside. This was first episode of such pain and patient attributed it to the outside food intake with no previous history of gastritis or gastric ulcers or any similar episode in present or previous pregnancies. On examination her temperature was 37-degree Celsius, pulse 100/minutes

(Tachycardia), BP of 117/71 mm of hg and normal respiratory rate.

Per abdomen was soft, non-tender, uterus was of term size, cephalic 4/5th palpable and no palpable uterine contractions. Per vaginal examination cervix was closed, long thick posterior cervix. Cardiotocography- reassuring, no deceleration, no contraction.

Despite symptomatic treatment like IV paracetamol, IV pantoprazole, IV metoclopramide and 2 units IV fluids, she was still distressed with upper abdominal pain. CTG in Emergency department had shown good variability with

baseline 140-150/ min but with 1 variable deceleration, thus the patient was admitted to labor room for observation. Thereafter patient

Received IV fluids and analgesia and symptomatically improved .Continuous CTG monitoring was done which showed baseline tachycardia up to 180/ minutes with increasing pulse 110 /minutes and elevated temperature 37.8 degrees Celsius.

Her hemoglobin was 8.8 gram% with high WBC count of 19,000. Serum amylase, lipase results were awaited. After one and half hour, there was acute prolonged fetal bradycardia till 90 bpm and hence decision was taken for a category 1 cesarean section.

INTRAOPERATIVE

After opening the abdomen, hemoperitoneum observed and hence surgeon and senior obstetricians were called to attend immediately. An alive ,female baby was delivered with low APGAR and uterus closed with good hemostasis .Other causes of hemoperitoneum were ruled out after exploring entire abdomen with surgeons, including upper abdomen . Significant bleeding was noted from left upper quadrant of abdomen and after multiple abdominal packs for tamponad were applied ,a ruptured splenic arterial aneurysm was seen to be the cause of bleeding and splenectomy was done. Massive blood transfusion was done alongside as patient went into shock, receiving 7 units blood and FFP during surgery after blood loss of about 5000ml.

She was transferred to Intensive care unit on ventilator support for 24-hour post-operative. After extubation patient made complete recovery and was discharged from hospital on post-operative day 10.

Histopathology at post-operative visit was consistent with splenic artery aneurysmal hemorrhage.

DISCUSSION

‘An ounce of prevention is worth a pound of cure’ [Benjamin Franklin]; so, one can only question whether a means at preventing the high rates of morbidity and mortality associated with splenic artery aneurysm in pregnancy is feasible. According to a review that was conducted to ascertain a possible benefit of screening pregnant women for SAA, the authors concluded that “radiologic screening of all childbearing-aged females and routine screening during pregnancy are not warranted, but identification of those at greater risk of harboring an asymptomatic SAA, along with the early institution of treatment, according to current guidelines, may prevent maternal and fetal mortality in the rare event of SAA rupture during pregnancy.” The cost-benefit of screening all pregnant women for SAA is unfavorable due to the rarity of the disease. Further studies are needed to determine which high risk population would benefit the most from screening, and to determine the most sensitive and cost-efficient radiologic method to detect asymptomatic SAA. Routine screening of the splenic artery by ultrasound and Doppler may be considered in selective pregnant patients with predisposing risk factors such as hypertension, multiparity, liver and pancreatic diseases, that predispose them to this morbid condition.

CONCLUSION

In conclusion, SAA rupture in pregnancy is a rare but life-threatening obstetrical complication, associated with high rates of maternal and fetal morbidity and mortality. A high index of suspicion must be maintained while evaluating any pregnant woman with abdominal pain, especially in the setting of hemodynamic instability. While diagnostic modalities have proven worthy, with ultrasound being the preferred imaging method in pregnancy, the absence of controlled studies continues to surround management guidelines. Moreover, evidence substantiating the benefit of screening pregnant women for this high-risk condition, as well as to determine the specific subgroup of childbearing-aged females that may benefit from the early institution of screening are still lacking and should be the focus of future research.

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