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Case Report

Hemoperitoneum due to spontaneous rupture of venous plexus overlying a fibroid in pregnancy: a case report

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ABSTRACT

Spontaneous venous rupture overlying a fibroid causing hemoperitoneum in pregnancy is uncommon but highly lethal. A 31-year-old woman, second gravida at 32 weeks of gestation, presented with pain abdomen. On examination, she had mild tachycardia and tachypnea; uterus size was 26 to 28 weeks. Ultrasound revealed intrauterine fetal demise and retro-placental clot without free fluid. Induction of labor was initiated, but the patient's vitals deteriorated. Repeat ultrasound illustrated intra-abdominal free fluid. On emergency laparotomy, the hemoperitoneum was revealed. Stillborn fetus, placenta, and clots of 100 mg were delivered by cesarean section. On exploration, multiple subserous fibroids were seen, and profuse bleeding was noticed from the venous plexus overlying a fibroid in the posterior left lateral wall. The bleeder was held with Green Armitage and ligated. The patient was discharged in satisfactory condition on post-operative day 10. Immediate surgical intervention is the best modality to diagnose and control bleeding.

Keywords: Pregnancy, Hemoperitoneum, Leiomyoma, laparotomy

INTRODUCTION

Uterine fibroid is the commonest benign pelvic tumour found in women with reproductive age. Leiomyoma causing serious complications are quite uncommon. It comprises of torsion of a subserosal or pedunculated fibroid, degeneration, and haemoperitoneum.[1,2] Rupture of a fibroid is unusual and the cause appears to be from a spontaneous rupture of leiomyoma vessel or is secondary to abdominal trauma.[3] There is difficulty in diagnosing from clinical presentation because of the poorly understood etiology.

Due to its unusual presentation of abrupt abdominal pain along with intense hypovolemic shock, it often indicates other similar situations like vascular and gastrointestinal emergency necessitating surgical interference.[1,4]

We hereby reported a case of hemoperitoneum due to spontaneous rupture of vessel that overlying the fibroid in a pregnant woman.

CASE REPORT

A 31-year-old woman, gravida 2, abortion 1, who was 32±2 weeks of gestation came to the emergency obstetric department with the complaints of pain abdomen for a week which was dull aching and aggravated while straining during defecation. Since morning she had giddiness, decrease perception of fetal movements, and aggravation of abdominal pain for which she went to a nearby hospital and from there she was referred. There was no history of trauma or injury. She was diagnosed with gestational diabetes mellitus and controlled on diabetic diet. The patient had a spontaneous abortion at 45 days of amenorrhea 1 year back. No history of major illness in the past.

On admission, she was pale, afebrile with a temperature of 37.0°C, pulse rate of 110/min, blood pressure of 100/70 mmHg, and had tachypnea up to 26/min. Abdominal examination revealed uterus around 26-28 weeks of gestation, tense, tender, and fetal heart sound was not

localized. On per speculum examination cervical os was posterior, uneffaced, and admitting one finger. No bleeding or discharge was seen through the os. Abdominal ultrasonography showed a single intrauterine fetus with no cardiac activity, the placenta was fundus posterior and had retro-placental clots (3×3 cm), no free fluid in the abdominal cavity. Patient had an early week scan where other than intrauterine pregnancy no pelvic pathology was noted. Patient and relative were explained regarding the condition of the patient and intrauterine fetal demise. The patient was shifted to intensive care unit (ICU), all the necessary blood investigations were sent including a sample for cross-matching. Induction of labour was started with misoprostol 25 µg in view of abruptio placenta with fetal demise as per departmental protocol. Along with induction, artificial rupture of membrane was done and found to have blood-stained liquor. Patient was kept under a strict monitor. After 4 hours of first misoprostol, when patient was reassessed before the second dose, increase rate of tachycardia and tachypnea was noticed but fundal height and per vaginal findings were same as before. Further induction was withheld. After 1 hour of observation, there was increased abdominal distention, and USG showed free fluid in the abdominal cavity for which emergency laparotomy was planned with adequate blood product. Informed consent was obtained from the patient's relative and the patient was shifted to operation theater (OT).

Under general anesthesia, the abdomen was opened, found to have hemoperitoneum of 1500 ml. Cesarean section was performed, a fresh stillborn fetus and placenta were delivered. On placental examination, a retro-placental clot of 100 mg was noted. Along with uterus, the whole of the abdominal cavity was examined to find out the source of hemorrhage. Multiple subserous fibroids were found all over the uterus with the maximum size of 4×4 cm in the posterior wall. Profuse bleeding was noticed from venous plexus that overlying to a fibroid in the posterior lateral wall of uterus at the level of the isthmic junction on left side (Figure 1).

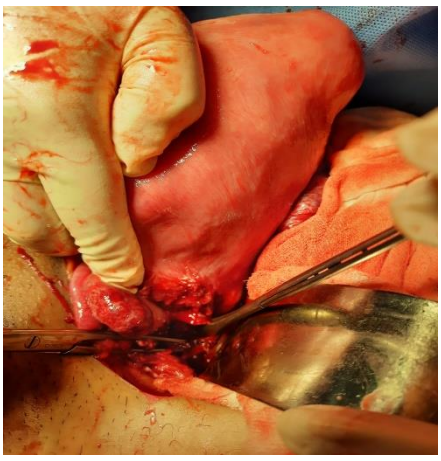

Figure 1: Showing venous plexus overlying to the fibroid in the posterior lateral wall of uterus.

Bleeder was captured by green armytage forceps and ligated the vessel. After ensuring hemostasis, entire abdominal and pelvic cavity were meticulously examined to check for any other pathology. The uterine cavity was closed in layers, hemostasis was checked and intraperitoneal drain was placed and abdomen was closed. The patient received 2 units of packed cell and 4 fresh frozen plasma. After surgery, patient was monitored in ICU and started on broad-spectrum antibiotics and all supportive care was given. Postoperative period was uneventful. She was discharged on postoperative day 10 with a follow-up appointment in the gynaecology clinic.

DISCUSSION

Even though uterine fibroids are the most common benign tumour found in women, their prevalence is underestimated.[5] Most cases remain asymptomatic but may present with menstrual disturbance, infertility, or symptoms due to pressure effect.[6] Critical presentation of a fibroid includes torsion of a subserosal fibroid, red degeneration, and malignant changes like leiomyosarcoma.[2] Sudden intraperitoneal haemorrhage in a case of fibroid uterus also can present as acute abdomen. This often results from rupture of a dilated vein beneath the surface of a subserous leiomyoma, ruptured leiomyoma or an avulsed pedunculated leiomyoma. Spontaneous rupture of the superficial veins is extremely rare but there are few predisposing factors such as hard work, defecation, sports, violent coitus and pregnancy are thought to be responsible for rupture of those vessels.

There are few cases of spontaneous avulsion of leiomyomata causing intra-abdominal hemorrhage reported in the literature. Cattolorda reported a case of hemoperitoneum caused by a detached fibroid in the abdomen adherent to a gangrenous appendix in 1935.[7] In 2005 another author reported a case of intraperitoneal hemorrhage in postmenopausal women due to spontaneous detachment of fibroid. In 2017, Miezhi et al reported a case of nulliparous women who had spontaneous avulsion of a large pedunculated uterine leiomyoma where the patient presented with hemoperitoneum and hypovolemic shock.[8] The commonest cause of an increase in the size of this benign tumor is pregnancy, one may encounter this complication frequently during pregnancy. Avulsion of a fibroid during a road traffic accident is reported in two cases in the past.[9] The cause of avulsion was thought to be a countercoup type of injury, the uterus and fibroid moving at relatively different speed producing shearing stress within the pedicle than a direct injury. The shock in these cases is attributed to the hemoperitoneum resulting from avulsion of the subserous fibroid.[10]

In this case report, the diagnosis of spontaneous rupture of vessels overlying a fibroid was made intra-operative. Spontaneous rupture of vessels must have resulted due to uterine contraction under the effect of misoprostol given for induction of labour. Another reason

for bleeding from the posterior wall uterus is direct contact injury from the promontory of the sacrum which was unlikely in our case.

The severe tenderness and rigidity of the abdomen at the time of hemorrhage often preclude definite detection of a fibroid on physical examination. The diagnosis of ruptured vessels or uterine fibroid may be clinically difficult but can be aided in correctly establishing the diagnosis via imaging using computed tomography (CT) and magnetic resonance imaging (MRI). Ultrasonography could demonstrate collection in the abdominal cavity that may indicate a rupture but it is not specific. Nonetheless, an exploratory laparotomy may be both diagnostic and therapeutic.

CONCLUSION

Hemoperitoneum due to spontaneous rupture of vessels in pregnancy is a rare situation especially when uterus harbouring the fibroid is not known previously. To minimize patient morbidity and mortality, immediate surgical intervention is required to establish the diagnosis and control bleeding.

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