Case Report

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Spontaneous Haemoperitoneum in Pregnancy- A Diagnostic Challenge

Obstetrics and Gynaecology Section

NIRANJAN MAYADEO[1], ANUSHA DEVALLA[2]

ABSTRACT

Spontaneous haemoperitoneum in pregnancy is an extremely rare condition that poses a diagnostic dilemma for the obstetrician. The authors here present a case of 23-year-old primigravida presenting at 34-weeks with acute pain in abdomen masquerading as clinical chorioamnionitis secondary to prolonged rupture of membranes. Abdomen palpation revealed uterine tenderness and pathological cardiotocography tracings suggesting the need for immediate delivery of the foetus by emergency caesarean section. Intraoperatively, there was haemoperitoneum (800 mL) and bleeding superficial uterine serosal veins on the posterior surface of uterus seen on exploration. The patient was successfully managed with favourable maternal and fetal outcome.

Keywords: Caesarean section, C-reactive protein, Parity, Perinatal mortality

CASE REPORT

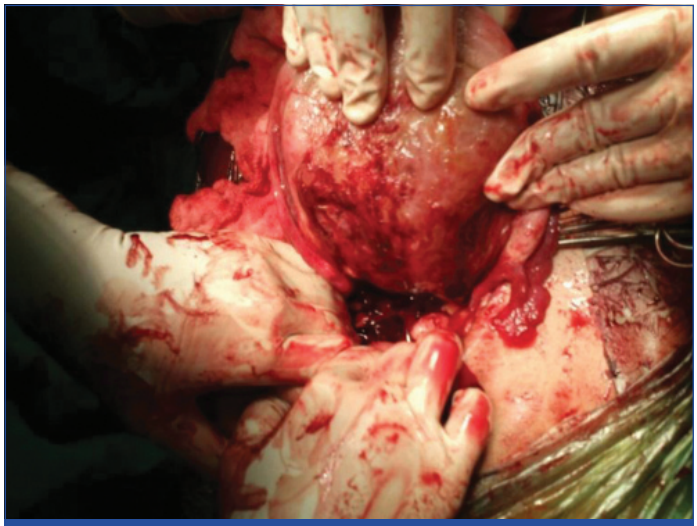
A 23-year-old, primigravida at 34 weeks gestation referred from a periphery hospital to the emergency room with leaking per vaginum for 36 hours and diffuse abdominal pain for 24 hours. However, there was no history of fever or foul smelling vaginal discharge. She was married for one year and conceived spontaneously. Her family and past medical history were unremarkable. She had only two antenatal visits (uneventful) at the periphery.

On examination, general condition was fair with recordings of normal temperature, pulse 105/minute and blood pressure 100/72 mm of Hg. Abdominal examination revealed generalised tenderness with uterine size of 34 weeks and fetal heart rate of 110 beats per minute. There was non-foul smelling clear liquor with dilated cervix (established preterm labour) demonstrable on speculum examination. The general and other systemic examination showed no abnormal findings. Provisional diagnosis of primigravida at 34 weeks gestation with preterm prelabour rupture of membranes with clinical chorioamnionitis was made. Patient's previous antenatal blood profile and two ultrasounds at 19 weeks (Level II) and 31 weeks (Level III) were within normal limits. Blood samples were sent for complete haemogram and C-reactive protein. A high vaginal swab and urine were taken for routine microscopy and culture sensitivity.

Immediately, the foetal heart tracings were abnormal on cardiotocography (pathological) with persistent late decelerations up to 70 beats per minute. Hence, the decision to deliver the foetus by emergency caesarean section was taken. Haemogram traced- Haemoglobin 10.7 gm%, WBC 15,670/cumm, Platelet count 2.1 lac/cumm.

Surgical Procedure

Under spinal anaesthesia, abdomen was opened by Pfannenstiel incision. Incidentally, fresh blood mixed with clots of around 800 mL was noted and drained. Anterior surface of the uterus with utero-vesical fold identified and lower segment caesarean section was performed. Liquor was found to be clear. A live female baby of 1.9 kilograms delivered with APGAR scores of 4/10 (1 min) and 7/10 (5 min) requiring resuscitation and shifted to NICU. Placentas with membranes showed no signs of abruption on removal and were sent for histopathological examination and cultures. The uterus, bilateral fallopian tubes and bilateral ovaries and broad ligaments were explored for the source of bleeding. The posterior surface of the uterus revealed bleeding from dilated superficial serosal veins [Table/Fig-1]. Bleeding could be controlled with multiple interrupted sutures and a gelfoam was placed. The abdominal cavity was carefully inspected (with the help of general surgeons) and no other bleeding source noted. Warm saline wash given and haemostasis confirmed. Estimated blood loss was around 1.4 litres and patient was transfused with two packed red blood cells. Abdomen closed with intraperitoneal drain placed in-situ. Patient tolerated the procedure well.



[Table/Fig-1]: Bleeding from the superficial venules on the posterior uterine wall causing haemoperitoneum.

Postoperative Stay

The patient was kept in High Dependency Unit (HDU) for monitoring. The vital parameters, urine output and drain output were maintained, and the patient was shifted to ward; self-retaining urine catheter removed on day two and drain by day three. C-reactive protein (0.5 mg/dL), urine routine and microscopy revealed few pus cells and culture analysis of urine and high vaginal swab were sterile. Haemogram with coagulation profile on day three were within normal limits. The baby was shifted to mother's side by day six and patient was discharged on day seven after suture removal with routine postnatal advice. Placenta and membranes were sent for culture and histopathology showed unremarkable changes.

Follow-Up

Both mother and baby are doing well at 6 weeks follow-up.

DISCUSSION

Spontaneous haemoperitoneum in pregnancy is a rare life-threatening condition causing adverse maternal and foetal outcomes [1]. It is commonly seen in the third trimester of pregnancy [2]. This condition can be a result of rupture of abdominal or pelvic viscera or utero-ovarian vessels, placenta percreta and rarely, pelvic endometrial implants. The incidence is around 1/10000 births [3]. The most common sites of haemoperitoneum secondary to rupture of utero-ovarian vessels are broad ligament (78.3%), the posterior surface of the uterus (18.3%), and the anterior surface of the uterus (3.3%) [3]. This complication presents as an acute onset of abdominal pain followed rapidly by the appearance of maternal shock and foetal distress. Endometriosis and adhesions are some other predisposing factors. A drop in haemoglobin is a frequent finding.

The difficulty in the primary diagnosis is attributed mainly to its rare occurrence and non-specific clinical presentation clinching its diagnosis only at laparotomy. There are only about 150 reported cases arising from uterine vessels [3]. Physiological dilatation to accommodate increased blood volume to the utero-ovarian vessels may form plexus and predispose to spontaneous rupture especially in the events of sudden rise in intra-abdominal pressure (coitus/cough) [3]. In a healthy pregnant women, extensive physiologic hypertrophy of the uterine vessels deals effectively with pressure fluctuations.

Recent reports have suggested a possible origin from decidualised endometriosis on the utero-ovarian vessel wall [4]. Another upcoming evidence suggests that progesterone resistance in endometriosis followed by its withdrawal may precipitate bleeding from the distended arterioles, secondary to the involution of the endometriotic implants [5]. In literature, similar cases of rupture of uterine vessels, uterine varix or as in the present case, superficial uterine serosal veins have been reported.

Differential diagnosis includes placental abruption, uterine rupture and acute appendicitis in 26%, 11% and 7% cases respectively [6]. Others include preterm labour, liver rupture (HELLP induced), perforated gastric ulcer, gall bladder stones, ruptured vasculature of spleen or liver. Haemoperitoneum in pregnancy is not related to age and parity. Acute generalised abdominal pain (70%) and loss of consciousness (30%) are the most common presentations. The largest published series of 1950 reported a 49% of maternal mortality [7]. More recent reports showed that the maternal mortality has been reduced to 3.6% as a result of improved resuscitative, anaesthetic and operative techniques. Perinatal mortality, however, remains high at 31% [7].

Imaging especially transvaginal ultrasound currently of limited value in diagnosis owing to the position of uterus and inability to get an overview of the abdominal cavity in the third trimester except for few series. Observations of intra-abdominal fluid collections can validate the suspicion of a haemoperitoneum, although the exact origin and quantity of the bleeding usually remains unknown until laparotomy [2].

Though embolisation may be considered a lesser invasive alternative to laparotomy, no studies have been conducted for the preferential outcomes of embolisation versus laparotomy in an unstable patient with haemoperitoneum. However, all interventional procedures should take into consideration the haemodynamic stability of the patient and gestational age of the foetus, along with the availability of capable specialties and equipment. Studies comparing open surgery versus endovascular techniques have focused mainly on thoracic and abdominal aortic intervention. However, endovascular techniques have shown decreased operative time, length of hospital stay for patients with stable vital parameters [8].

CONCLUSION(S)

Obstetricians should remain aware of this rare cause of acute abdominal pain in pregnancy. Prompt diagnosis and timely intervention are the key measures toward a successful feto-maternal outcome.

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PARTICULARS OF CONTRIBUTORS:
1. Professor, Department of Obstetrics and Gynaecology, Seth GS Medical College, KEM Hospital, Mumbai, Maharastra, India.
2. Junior Resident, Department of Obstetrics and Gynaecology, Seth GS Medical College, KEM Hospital, Mumbai, Maharastra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Anusha Devalla,
House No. 15, Sector 9A, Saket Nagar, Bhopal, Madhya Pradesh, India.
E-mail: anushadevalla2@gmail.com

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