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SPONTANEOUS HEMOPERITONEUM DURING LABOUR - A RARE CASE REPORT

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Abstract : Spontaneous rupture of utero-ovarian vessels is a potentially lethal complication of pregnancy. There has been only about 150 cases reported in the literature . Spontaneous hemoperitoneum may develop from rupture of various abdominal or pelvic viscera like spleen, liver and also uterus, from the utero- ovarian vessels and rarely from pelvic endometrial implants. Here we report a case of 27 yr old primigravida at 39weeks and 2 days gestation with gestational hypertension who was admitted for safe confinement. Labour was induced in view of elevated blood pressure. Patient developed sudden hypotension and tachycardia in the second stage of labour. Since the pervaginal examination at that time showed a fully dilated cervix with the vertex at plus 2 station vaccum was applied and a live male baby weighing 3 kgs was delivered vaginally. Bleeding was within normal limits but her blood pressure failed to rise inspite of adequate IV fluids. USG abdomen done showed frank hemoperitoneum. Emergency laparotomy was done a profusely bleeding vessel from the posterior wall of the uterus was identified and the same was ligated. This case has been reported for its extreme rarity. The etiology of spontaneous rupture of utero-ovarian vessels during pregnancy remains poorly understood. However, several etiologic hypothesis have been postulated, based on the previously reported cases like arteriovenous malformations, uterine artery aneurysm, endometriosis, increase in venous pressure (especially during labour), free anastomosis of uterine and ovarian vessels within broad ligament, absence of valves in ovarian veins and weakness of the vessels. Differential diagnosis may include placental abruption, uterine rupture, abdominal pregnancy, spontaneous rupture of maternal umbilical vein or aneurysmal vessels, rupture of liver or spleen or their vasculature, appendix rupture and HELLP syndrome .The diagnosis of this condition is usually made only during laparotomy.

Keyword : hemoperitoneum , placental abruption , endometriosis, aneurysm

INTRODUCTION:

Spontaneous rupture of utero-ovarian vessels is a potentially lethal complication of pregnancy. There has been only about 150 cases reported in the literature1 .Hemoperitoneum during pregnancy is rare but potentially life threatening to both mother and fetus. Spontaneous hemoperitoneum may develop from rupture of various abdominal or pelvic viscera like spleen, liver and also uterus, from the utero- ovarian vessels and rarely from pelvic endometrial implants. It mimics placental abruption having similar clinical presentations like acute abdominal pain, peritonitis, shock and fetal distress or death. Timely surgical intervention with appropriate volume replacement provides the best outcome in this scenario. There are three types of utero-ovarian vessels rupture: intraperitoneal (from vessels localized on uterine surface), retroperitoneal (bleeding from venous plexus between the two leaves of broad ligament) and the combination of both 2,3.It is most frequently observed in the third trimester. About 50% of the cases are found in primi mothers and over 60% of which are related to the process of labour. The maternal mortality rate ranges from 10% to 40% and the perinatal mortality rate is as high as 30% quoted in the literature4.

CASE REPORT:

A 27 years old primi gravida, at 39 weeks 2 days of gestation, with gestational hypertension was admitted for safe confinement. Patient was diagnosed to have gestational hypertension from 32 weeks and was started on antihypertensives. Besides gestational hypertension her antenatal course had been uneventful. Labour was induced in view of elevated blood pressure upto 150/100mmHg. Blood pressure recordings throughout labour was within normal limits. Patient was in labour for 9 hrs following which an episode of sudden sweating and feeling of faintness was registered in second stage of labour. Fetal bradycardia was noted and her blood pressure recorded at that time was 90/60 mmHg. Since the pervaginal examination at that time showed a fully dilated cervix with the vertex at +2 station vaccum was applied and a live male baby weighing 3 kgs was delivered vaginally. Bleeding was within normal limits. During the entire course of second stage and even after delivery her blood pressure failed to rise in spite of adequate intravenous fluid infusion. Patient also had significant tachycardia. Ultrasound abdomen was done, which showed frank hemoperitoneum. Emergency laparotomy was performed. Intra-operatively there was around 1.5- 2 litres of blood, which was evacuated. There

was a profusely bleeding vessel from posterior uterine wall, which was sutured with 1-0 vicryl. Complete hemostasis was secured. 2 units packed cells were transfused intraoperatively. Patient was transfused with 4 units FFP and 2 platelets in the immediate post op period. Her postoperative recovery was good and she was finally discharged on the nineth postoperative day.

Image 1 - Bleeding vessel in the posterior wall of the uterus

Image 2- Bleeding vessel ligated with 1-0 vicryl

DISCUSSION:

Spontaneous rupture of utero-ovarian vessels during pregnancy is a rare complication. The etiology of spontaneous rupture of utero-ovarian vessels during pregnancy remains poorly understood. However, several etiologic hypothesis have been postulated, basing on the previously reported cases: arteriovenous malformations, uterine artery aneurysm, endometriosis, increase in venous pressure (especially during labour), free anastomosis of uterine and ovarian vessels within broad ligament, absence of valves in ovarian veins and weakness of the vessels 5-9.On the other hand, macrosomia associated with prolonged labour, which was usually feared to be a cause, does not seem to be a predisposing factor as per the previous reported cases 10.Physiological increase in blood flow to the utero-ovarian vessels during pregnancy imparted by dilatation of vessel may be reasoned to undergo spontaneous rupture. Uterine surface varicose veins have also been involved in rupture and veins over the posterior wall of the uterus like our case has been mentioned 11-13. Presenting symptoms include acute-onset abdominal pain and maternal hypovolemic shock. Placental abruption has been the most common differential diagnosis. Other differential diagnosis may include uterine rupture, abdominal pregnancy, spontaneous rupture of maternal umbilical vein or aneurysmal vessels, rupture of liver or spleen or their vasculature, appendix rupture and HELLP syndrome 13 .The diagnosis of this condition is usually made only during laparotomy.

CONCLUSION:

Unlike most of the reported cases in which acute onset abdominal pain was the presenting symptom, signs of maternal hypovolemic shock and abnormal fetal heart rate tracing were the most common findings at the presentation as it was in our case .The underlying cause remains unknown, as no signs of endometriosis, vascular abnormalities or other obvious causes were observed peroperatively. After having encountered such a rare condition with an atypical presentation, we understand the need to consider a more rigorous fetal and maternal vitals monitoring in labour as well as in cases with nonspecific maternal abdominal pain (even with normal initial fetal assessment) as it is one of the main key for an earlier recognition of complications and to prevent dramatic maternal and fetal outcomes.

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