Family-Physician Corner

A Rare Cause of Hemoperitoneum in Pregnancy

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Spontaneous rupture of uterine vein is a life-threatening unpredictable surgical emergency which had a high mortality rate in the past. A full exploration of the uterus is of great importance to differentiate the cause of hemoperitoneum with an intact scar. The key to save the mother and the baby in such case is an immediate laparotomy with quick delivery of fetus and timed blood replacement for the mother.

A twenty-nine-year-old Asian female, G2P1 at 35 weeks of gestation presented with labor pain. She had gestational diabetes and history of previous Cesarean section.

Fetal monitor showed sudden severe fetal distress and hypotension (80/50 mmHg). Scar rupture was suspected, emergency Cesarean section was performed. Hemoperitoneum of approximately 600 ml of blood was removed. The uterus was intact with no signs of rupture scar. A live female baby was extracted. Multiple large varicose veins were noted with active bleeding coming from the right varicosity. Proximal and distal control sutures were applied and the right ascending branch of the uterine artery was ligated. She was discharged on the 4th day post-Cesarean section.

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The hormonal and anatomic physiologic changes that occur during pregnancy will cause dilation of uterine vessels, which would increase pressure in the iliac and inferior vena cava area[1]. However, the cause of sudden rupture and bleeding of these vessels in the affected women is not yet known. The most common sites of rupture are broad ligament (78.3%), the posterior surface of the uterus (18.3%), and the anterior surface of the uterus (3.3%)[1]. Spontaneous rupture of the uterine vein is a life-threatening unpredictable surgical emergency which had a high mortality rate of 49%[2]. In recent years, with the advancement of diagnostic technology and speed of surgery, the maternal mortality rate has decreased to less than 4%. However, it still carries high perinatal mortality of 31%[1]. The most common cause of spontaneous intra-abdominal hemorrhage is the rupture of the viscera (liver, spleen) and if a woman is pregnant, ruptured uterus should be considered. Rupture of the renal artery, hepatic or splenic vessels are rare[3,4].

Spontaneous non-traumatic rupture of uterine varicose veins incidence is 1 in 10,000 births[5]. In most of the cases reported, it was venous[6]. Most cases have occurred during pregnancy, approximately 61% during the third trimester. Approximately 18% occur during labor, and 21% during puerperium[5].

The aim of this report is to present a rare case of spontaneous non-traumatic rupture of uterine varicose veins during labor.

THE CASE

A twenty-nine-year-old Asian female, G2P1 at 35 weeks of gestation presented with labor pain. She had gestational diabetes during pregnancy which was controlled with diet and a history of previous Cesarean section four years ago due to severe preeclampsia.

The vital signs were stable and the vaginal examination showed a closed cervix with regular contractions of moderate strength. The fetal monitor showed sudden severe fetal distress and sudden hypotension (80/50 mmHg). Scar rupture was suspected, emergency Cesarean section was performed. Hemoperitoneum of approximately 600 ml of blood was removed. The uterus was intact with no signs of scar rupture. An incision was made in the lower segment, and a live female baby was extracted with Apgar score 9 and 10 at 1 and 5 minutes, respectively and a birth weight of 2.9 kg. After closing the uterus, multiple large varicose veins were noted on the right and left posterior uterine wall with active bleeding coming from right varicosity. Proximal and distal control sutures were applied and the right ascending branch of the uterine artery was ligated. Bleeding was controlled and the estimated total blood loss was 2.5 liters. She received a total of 4 units of packed RBC, 6 units of fresh frozen plasma, and 6 units of Cryoprecipitate. She was discharged on the 4th day post-Cesarean section.

DISCUSSION

In our case, the most obvious differential diagnosis is the previous Cesarean section scar rupture. Sudden tachycardia with shock after acute severe abdominal pain and/or sudden fetal distress should raise the suspicion of hemoperitoneum. The key to saving the mother and the baby in such a case is an immediate laparotomy with quick delivery of the fetus and timed blood replacement for the mother. A full exploration of the uterus is of great importance to differentiate the cause of hemoperitoneum with an intact scar. Ligation of the varices alone may not always help to stop the hemorrhage; the use of pressure together with strong hemostatic agents has been suggested[6]. Avoid taking stitches into bleeding varicose veins as this may worsen the condition and formation of hematoma will lead to sudden hypotension and hysterectomy will be unavoidable.

CONCLUSION

This is a rare cause of emergency obstetric hemorrhage. It should be considered in case of sudden severe pain, presence

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of hemoperitoneum, non-reassuring fetal trace and absence of vaginal bleeding.

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REFERENCES

1. Díaz-Murillo R, Tobías-González P, López-Magallón S, et al. Spontaneous Hemoperitoneum due to Rupture of Uterine Varicose Veins during Labor Successfully Treated by Percutaneous Embolization. Case Rep Obstet Gynecol 2014; 2014: 580384.
2. Hodgkinson CP, Christensen RC. Hemorrhage from Ruptured Utero-Ovarian Veins during Pregnancy; Report of 3 Cases and Review of the Literature. Am J Obstet Gynecol 1950; 59(5):1112-7.
3. Yasmin F, Kabir N, Ferdous M. Spontaneous Rupture of Subserous Uterine Vein in Late Pregnancy. Bangladesh J Obstet Gynaecol 2012; 27(2): 87-89.
4. Sharma S, Yadav P, Singla A. Case Report: Massive Maternal Haemorrhage: A Rare Case of Ruptured Uterine Varix. The Journal of Obstetrics and Gynecology of India 2017; 67(5):370–371.
5. Ginsburg KA, Valdes C, Schnider G. Spontaneous Three Case Reports and a Review of the Literature. Obstet Gynecol 1987; 69(3): 474–476.
6. Jang JH, Kyeong KS, Lee S, et al. A Case of Spontaneous Hemoperitoneum by Uterine Vessel Rupture in Pregnancy. Obstet Gynecol Sci 2016; 59(6):530-534.