Cases Report

Spontaneous Intra-Abdominal Bleeding during Pregnancy

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Two cases of spontaneous hemoperitoneum caused by ruptured uterine vessels plexus during the second and third trimester of pregnancy were reported. All presented with acute abdominal pain. Emergency exploratory laparotomy and suture-ligation were performed. One case had a recurrent intra-abdominal bleeding. The outcomes were good. One infant had complications from prematurity and both were discharged in good condition.

Keywords: *Spontaneous, Hemoperitoneum, Pregnancy*

J Med Assoc Thai 2006; 89 (7): 1044-6
Full text. e-Journal: *http://www.medassocthai.org/journal*

Spontaneous hemoperitoneum during pregnancy is rare. The morbidity and mortality rates are approximately 49%[1]. Symptoms are acute abdominal pain, peritonitis, shock, fetal distress or death. Two cases of spontaneous intra-abdominal bleeding during pregnancy were presented. The objective of the present report was to share the experience in diagnosis and management of a rare acute surgical condition in pregnancy. The causes, pathogenesis, clinical presentations, outcomes and management of this uncommon condition were reviewed.

Case Report

Case 1

A 34-year-old primigravid Thai woman presented at 31 weeks' gestation with acute lower abdominal pain that started about 30 minutes before admission. The pain radiated from lower abdomen to the back and hips. She appeared acutely ill and could not lie in a lateral recumbent position. Her body temperature was 36.4°C, blood pressure110/70 mmHg, pulse rate 78/min and respiratory rate 20/min. Abdominal examination showed an appropriate uterine size with lower uterine segment tenderness without guarding rigidity. Uterine contraction was noted every 5 minutes without cervical change. Ultrasonography showed a single viable fetus without evidence of retroplacental blood clot. Nineteen hours later, physical examination revealed a distended abdominal wall and marked uterine tenderness with irregular contractions. A diagnosis of abruptio placenta or ruptured uterus was made and emergency exploratory laparotomy was performed.

There was a hemoperitoneum of about 750 ml. The uterus showed a well-formed lower uterine segment. Bleeding site could not be identified. Low transverse cesarean section was performed and a 1,560 gm infant was delivered with Apgar scores at 1 and 5 minutes of 6 and 8, respectively.

After delivery, the bleeding point was visible at right uterine vein. Spontaneous rupture of the utero-ovarian plexus was diagnosed. It was suture ligated without postoperative complication and the patient was discharged on the fourth day. The baby had severe respiratory distress syndrome and mild degree of necrotizing enterocolitis. After treatment with surfactant and total parenteral nutrition, the baby was discharged at 31 days with a weight of 1,940 grams.

Case 2

A 29-year-old primigravid Thai woman of 24 weeks' gestation presented with acute abdominal pain. Body temperature was 36.7°C, blood pressure 100/60 mmHg, pulse rate 82/min and respiratory rate 24/min. Examination showed right lower quadrant tenderness with guarding. Ultrasonography showed an active fetus.

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There was a moderate amount of free fluid in the peritoneal cavity. A short echoic tubular structure without intramural gas was found at the medial part of the caecum. After diagnosis of acute appendicitis, she underwent exploratory laparotomy. Hemoperitoneum was 1,500 ml with normal appendix. The bleeding site was at the right posterior uterus near the uterine vessels. Spontaneous rupture of the uterine varices was diagnosed and suture-ligated. The appendix was excised.

The second admission was at 31 weeks gestation with acute abdominal pain after vomiting. Ultrasonographic study found a normal viable fetus with intra-peritoneal free fluid. Exploratory laparotomy showed a 2,000 ml hemoperitoneum. The bleeding site was in the same location as before. Laceration of the varices was identified and suture ligation was performed. She delivered a 1,880 gm male infant in good condition at 33 weeks.

Discussion

Two cases of spontaneous intra-abdominal bleeding during pregnancy were reviewed. The etiology of bleeding in both cases was laceration of utero-ovarian plexuses. The second case had repeated bleeding. The authors hypothesized that the growing uterus might stretch and weaken the vascular wall of the plexuses and probably cause the second spontaneous rupture.

Primary diagnosis of ruptured utero-ovarian vessels is rare. The preoperative diagnosis is usually hemoperitoneum of unknown cause (37%), placental abruption (26%), uterine rupture (11%) or acute appendicitis (7%)[2]. Almost 70% of clinical presentations are acute abdominal pain and 30% are loss of consciousness. The review by Ginsburg and et al reports 18% of cases present with hypovolemic shock[2], usually occurs in the third trimester of pregnancy[3], but has occurred in all trimesters or puerperium [4]. With appropriate resuscitation and prompt surgical intervention, mortality and morbidity may be reduced. The most important factors determining fetal outcome are degree of prematurity and severity of maternal hemodynamic compromise.

Pathogenesis of this condition is obscure. Physiologic increasing of blood flow to the utero-ovarian vessels may cause dilatation of these plexuses and predispose to spontaneous rupture. The sudden increase in intravenous pressure associated with increased intra-abdominal pressure or coitus can also cause rupture[3,5]. Uterine arteriovenous malformations (AVMs) or fistulas are rare[6,7]. The spontaneous rupture of these AVMs was reported by Simpson et al[6].

Principles of management include intravenous fluid resuscitation and exploratory laparotomy. First, the bleeding point must be found by extension of the skin incision, then antevert the uterus, if possible, and look for utero-ovarian plexuses. Suture ligation or running lock ligature should be performed and pregnancy can be continued to term. If the uterus is too large to manipulate, prompt cesarean section should be made and the bleeding site can be easily found. If there is no pelvic pathology, other sites should be inspected, such as AVMs of splenic, hepatic, renal or adrenal vessels.

Ginsburg et al found the following outcomes: repair only, with or without cesarean section, about 85%; hysterectomy, 11%; and death, 4%. Fetal outcomes were: prematurity, 68%; term, 32%; and perinatal death, 31% [2].

Maternal and fetal mortality has decreased with the use of sophisticated techniques of anesthesiology, blood and volume replacement and neonatal care. However, obstetricians should be aware of this rare cause of acute abdominal pain in pregnancy. Close observation, prompt diagnosis and intervention are the keys to improvement of patient survival.

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ภาวะตกเลือดในช่องท้องที่เกิดขึ้นเองในสตรีตั้งครรภ์

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รายงานผู้ป่วยตั้งครรภ์ 2 ราย มีภาวะตกเลือดในช่องท้องที่เกิดขึ้นเองในช่วงไตรมาสที่สองและสาม ซึ่งเกิดจากการฉีกขาดของหลอดเลือดที่มาเลี้ยงมดลูก ทั้งสองรายมาด้วยอาการปวดท้องน้อยเฉียบพลัน ผู้ป่วยได้รับการวินิจฉัยก่อนผ่าตัดว่ามีภาวะรกลอกตัวก่อนกำหนดและไส้ติ่งอักเสบตามลำดับ รายที่สองพบว่ามีภาวะตกเลือดซ้ำจากสาเหตุเดิมเป็นครั้งที่สอง การผ่าตัดเพื่อเย็บผูกหลอดเลือดดังกล่าวได้ผลดี

มีทารกหนึ่งคนเกิดภาวะแทรกซ้อนจากการคลอดก่อนกำหนดและทั้งคู่สามารถออกจากโรงพยาบาลด้วยความปลอดภัย