Rectus Sheath Hematoma During Pregnancy – A Severe But Easily Overlooked Condition: A Case Report

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SUMMARY

Objective: Rectus sheath hematoma (RSH) of the abdominal wall is a severe condition caused by a tear in the inferior epigastric artery. Due to its relative rarity compared with other obstetric complications, the early recognition of RSH challenges the diagnostic acumen of obstetricians. We report a case of RSH that was initially suspected to be placenta percreta with bleeding into an extruterine compartment. The differential diagnosis and management of this clinical condition are also discussed.

Case Report: A 30-year-old woman, gravida 2 para 1, with a 31-week singleton pregnancy, complained of lower abdominal pain after a week of coughing. Abdominal ultrasonography identified a well-defined, hypoechoic mass with some internal echoes in the right lower quadrant of the abdomen. Doppler sonography detected vascularity with blood flowing around the mass but little within it. The patient underwent cesarean section and exploratory laparotomy because of unstable hemodynamics. After delivery of a 1,680 g male baby, surgical repair of the torn epigastric artery and ruptured rectus abdominis, and sufficient blood transfusion stabilized her condition.

Conclusion: RSH should be included in the differential diagnosis of patients with abdominal pain during pregnancy. The key to diagnosis is to suspect that the pain originates from the abdominal wall. [Taiwanese J Obstet Gynecol 2004;43(3):168–171]

Key Words: rectus sheath hematoma, pregnancy, pain of the abdominal wall

Introduction

Rectus sheath hematoma (RSH) of the abdominal wall, a severe but uncommon condition caused by a tear in the inferior epigastric artery, is characterized by a palpable mass and severe, usually unilateral, abdominal pain that is aggravated by movement [1–4]. A history of trauma, anticoagulant therapy, and trivialities such as coughing, straining, or twisting to one side may remind clinicians of this diagnosis [5]. Awareness of RSH during pregnancy is important because the abdominal wall is easily overlooked as a cause of acute abdominal pain [6,7], given the higher prevalence of other pregnancy-associated pain such as abruptio placentae, preterm labor, degenerating leiomyoma, and adnexal torsion. We report a case of RSH that was initially suspected to be placenta percreta with bleeding into an extruterine compartment.

Case Report

A 30-year-old woman, gravida 2 para 1, with a 31-week singleton pregnancy, complained of lower abdominal pain for 3 days. She had coughed for 1 week prior to the onset of abdominal pain. No vomiting, nausea, diarrhea, or constipation was noted. History included
laparoscopic cholecystectomy for gallbladder stones and cesarean section due to prolonged premature rupture of membranes, but no uterine leiomyoma or ovarian mass.

On physical examination, her blood pressure was 122/70 mmHg, temperature was 37.2°C, pulse rate was 110 bpm, and respiration rate was 20 breaths/minute. A tender mass about 8 × 6 cm was palpable in the right lower quadrant of the abdomen. The pain was worsened by coughing and movement, but it did not radiate. Pelvic examination revealed no vaginal bleeding and a closed cervix. Laboratory data included a white cell count of 14,600/μL, hemoglobin of 10.7 g/dL, hematocrit of 33%, and platelet count of 298,000/μL. The prothrombin time, activated partial thrombin time, bleeding time, and coagulation time were all within normal limits. Abdominal ultrasonography identified a well-defined, hypoechoic mass with some internal echoes in the right lower quadrant of the abdomen (Figure 1). Doppler sonography detected vascularity with blood flowing around the mass but little within it (Figure 2). The mass was initially suspected to be torsion of the adnexa or placenta percreta with bleeding into the extrauterine compartment (Figure 3). Fetal monitor revealed normal fetal heart beats (140 beats/minute) and minimal uterine contraction.

As the right lower abdominal pain worsened, the mass increased in size, and the patient’s hemodynamics became unstable (blood pressure, 90/50 mmHg; pulse rate, 130/minute). The patient underwent exploratory laparotomy for suspected placenta percreta with extrauterine bleeding. Soon after the Pfannenstiel skin incision was made, profuse fresh blood and clots were noted before the peritoneal cavity was entered. Upon entering the peritoneal cavity, the initial impression of placenta percreta was ruled out by the normal appearance of the uterus. However, with the consideration that the unstable maternal hemodynamics might endanger the baby, we performed a lower segment transverse cesarean section to deliver a 1,680 g male baby (Apgar scores of 7 and 9 at 1 and 5 minutes, respectively). After closure of the uterus, the abdomen was thoroughly explored, revealing normal bilateral adnexa and the absence of any intraperitoneal lesion. Thus, bleeding was verified to be solely of a suprafascial origin.

After an inverted T skin incision to open the operative field, 1,800 g of blood clots were evacuated. The bleeding vessel was ligated and the ruptured rectus abdominis was sutured. The patient was transfused with 2 units of packed red blood cells, 4 units of whole blood cells, and 4 units of fresh frozen plasma. Two J-P drainage tubes were placed in the suprafascial space. Postoperative fever and wound infection were treated with antibiotics (gentamicin and cefazolin), and the patient was discharged in good condition on the 14th postoperative day.
Discussion

In the available literature, reports of RSH can be traced back to 60 years ago [8]. However, because of its relative rarity compared with other obstetric complications such as abruptio placentae, adnexal torsion, degenerating leiomyoma, and preterm labor, the early recognition of RSH challenges the diagnostic acumen of obstetricians [6].

RSH should be included in the differential diagnosis of patients with abdominal pain during pregnancy. The key to the diagnosis is to suspect that the pain originates from the abdominal wall. Features of intra-abdominal pain include nausea, vomiting, diarrhea, constipation, changes in bowel habits, pain made better or worse by eating or bowel movements, jaundice or abnormal liver function tests, and fever or laboratory evidence of inflammation. When such findings are absent, the abdominal wall should be suspected as the source of pain. Certain clinical manifestations may point to a parietal source of the pain (Table) [9].

The symptoms of RSH include severe abdominal pain occurring in one quadrant of the abdomen, aggravated by movement. Hypotension, tachycardia, tachypnea, weakness, and sweating may be noted when marked blood loss occurs [5,10]. Physical examination typically shows a palpable tender mass, occasionally accompanied with ecchymosis of the abdominal wall (Cullen’s signs) [11]. The mass is equally palpable with the patient lying in a supine position or partially sitting up (Fothergill’s sign). Increasing tenderness on contracting the abdominal wall muscles suggests a parietal cause of pain (Carnett’s sign) [5]. Swelling of the hematoma is limited to the rectus abdominis muscle, with its sheath not extending beyond the abdominal midline or the lateral borders of the muscle (Romanzew’s sign). However, below the arcuate line, the posterior sheath may communicate, and the mass may project across the midline or extend inferiorly and posteriorly towards the bladder. Severe ipsilateral tenderness may contrast with its absence on the contralateral side.

The diagnosis of RSH should be suspected on clinical grounds and supported by additional imaging evidence. Abdominal ultrasonography, computed tomography (CT), radionuclide imaging, and magnetic resonance imaging (MRI) have all been used to establish the diagnosis [7,12,13]. Ultrasonography often shows a heterogeneous hypoechogenic mass in the abdominal wall and is most useful for detecting RSH [7,12]. During pregnancy, exposure of the fetus to radiation has limited the use of CT and radionuclide imaging [7,12,13]. On the other hand, MRI appears to be a safe option [12].

RSH may be self-limiting and expectant management is sufficient for these patients [5], although complete resolution of the hematoma may take as long as 2–3 months. In cases with rupture into the peritoneum, infection, or active bleeding with unstable hemodynamics, prompt surgical intervention is indicated. Operations include evacuation of the hematoma, ligation of the bleeding vessels, and the placement of a closed-system drain, if necessary [5–7]. Cesarean section delivery should be performed only for fetal indications.

In conclusion, RSH should be considered in the differential diagnosis of severe abdominal pain during pregnancy. Ultrasound evidence can support the diagnosis. Correct diagnosis and management will decrease maternal and perinatal morbidity and mortality.

References


Table. Features of pain originating from the abdominal wall

- Pain often constant or fluctuating, but not episodic
- Pain intensity possibly related to posture changes (e.g., lying, sitting, standing)
- Pain not related to meals or bowel function
- Abdominal tenderness unchanged or increased when abdominal wall is tensed (positive Carnett’s sign)
- Discrete, tender pain trigger point no more than a few cm in diameter
- Trigger points often found along lateral margins of the rectus abdominis muscles or at attachments of muscle or fascia