Challenges in the Diagnosis and Management of Spontaneous Rectus Sheath Haematoma in Pregnancy: A Case Report

Gebelikte Spontan Rektus Kılıf Hematomunun Tanı ve Yönetimindeki Zorluklar: Bir Olgu Sunumu

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ABSTRACT

Spontaneous rectus sheath haematoma (SRH) is a rare clinical entity. When present in pregnant patients, the diagnosis and management of SRH becomes more challenging as the health of the patient and her foetus is at stake. Challenges exist during the diagnosis and treatment of this condition. Clinical signs and ultrasonography are often unable to diagnose this condition, and there are special considerations before computed tomography or magnetic resonance imaging can be employed in this situation. As with any pregnant patient, a decision for surgery, if required, should not be taken lightly. We present a case of a 40-year-old lady who developed SRH at 23 weeks gestation. We report the challenges during the diagnosis and treatment of this case and provide a brief literature review of this rare entity.

Keywords: Abdomen rectus muscle, haematoma, epigastric artery, abdominal pregnancy, ultrasound, laparotomy.

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ÖZET

Spontan rektus kılıf hematomu (SRH) nadir görülen bir klinik antitedir. Hamile hastalarda mevcut olduğunda, hastanın ve fetüsünün sağlığı tehlikede olduğundan CSÜS tanısı ve tedavisi daha zor hale gelir. Bu durumun tanı ve tedavisi sırasında zorluklar vardır. Klinik belirtiler ve ultrasonografi genellikle bu durumu teşhis edemez ve bu durumda bilgisayarlı tomografi veya manyetik rezonans görüntüleme kullanılmadan önce özel hususlar vardır. Herhangi bir hamile hastada olduğu gibi, gerekirse ameliyat kararı hafife alınmamalıdır. 23. gebelik haftasında CSÜS gelişen 40 yaşında bir bayan hastayı sunuyoruz. Bu vakanın tanı ve tedavisi sırasındaki zorlukları bildiriyoruz ve bu nadir antite hakkında kısa bir literatür incelemesi sunuyoruz.

Anahtar Sözcükler: Abdomen rektus kası, hematom, epigastrik arter, abdominal gebelik, ultrason, laparotomi.

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INTRODUCTION

Spontaneous rectus sheath haematoma (SRH) occurs when there is an atraumatic bleeding that causes blood accumulation within the rectus sheath. The bleeding is frequently from one of the epigastric arteries in the anterior abdominal wall. SRH is a rare clinical entity. In the medical literature, reports of SRH are mainly in the form of case reports or case series. The occurrence of SRH during pregnancy is even more uncommon. Only 13 cases were reported in a 26 years literature review of this rare entity (1).

When SRH occurs in pregnancy, medical practitioners are faced with unique challenges. The challenges exist during the diagnosis and treatment of SRH, which can have consequences to both the patient and her foetus. During the physical examination, SRH is frequently not identified because it is not a priority in the differential diagnosis list of most medical practitioners, due to the rarity of this condition. If the diagnosis of SRH is not considered, it is unlikely that the medical practitioner will attempt to elicit the Fothergill or Carnett signs. Where diagnostic imaging is concerned, it is difficult to identify SRH by ultrasonography, whereas computed tomography and magnetic resonance during pregnancy are associated with radiation and logistic issues respectively. In terms of treatment, for most medical practitioners, there is a higher threshold for surgery when dealing with pregnant patients.

We report a case of SRH in pregnancy at our centre which illustrates these challenges.

CASE REPORT

A 40-year-old woman presented to our centre with right lower quadrant abdominal pain. She was 23 weeks pregnant. She had no previous medical illness and was not on any medication including anti-coagulants or anti-platelets. She recalled a two-days history of recurrent coughing prior to her admission.

On examination, the patient was mildly restless with a pain score of 6 over 10. She had mild pallor. Her blood pressure was 96/60 mmHg, pulse rate was 110 beats per minute and oxygen saturation was 99 per cent on room air.

On abdominal examination, she had a gravid abdomen which was slightly larger than expected for a 23 weeks pregnancy. The abdominal skin colour was normal. On palpation of the abdomen, there was tenderness and guarding of the lower half of her abdomen, which was more on the right side. Rebound tenderness was positive. The Fothergill (unilateral anterior abdominal mass with the contraction of the rectus abdominus muscle) and Carnett (increasing tenderness during the contraction of the rectus abdominus muscle) signs were not elicited during the time of the physical examination as SRH was not suspected.

Her blood investigation showed a haemoglobin level of 6.7 g/dL and a leucocyte count of 11.5 x 10^9/L. There was no coagulopathy. She was negative for HELLP (haemolysis, elevated liver enzymes and low platelet) syndrome.

A trans-abdominal ultrasound (US) scan was performed (Figure 1). The US showed organized clots inferior to the abdominal wall which were thought to be located below the peritoneal layer. The US for the fetus was normal for a 23 weeks pregnancy and was negative for placenta praevia. We do not have computed tomography (CT) or magnetic resonance imaging (MRI) scan at our centre.

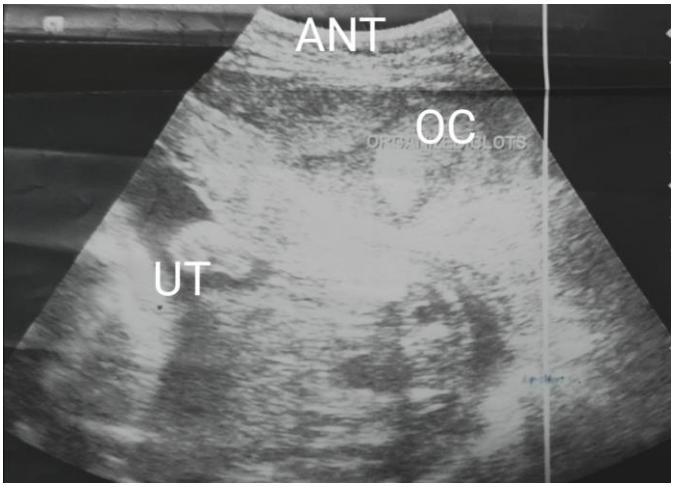

Figure 1: Pre-operative transabdominal ultrasound. ANT: Anterior. OC: Organized clots. UT: Uterus.

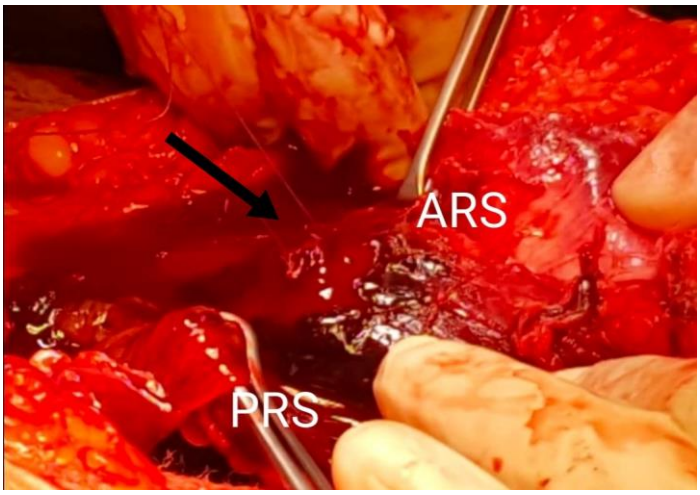

Figure 2: Intra-operative findings of a rectus sheath haematoma with oozing of blood from a branch of the right inferior epigastric artery (Arrow). ARS: Anterior rectus sheath. PRS: Posterior rectus sheath.

Our primary diagnosis at the time was an infarcted uterine leiomyoma. Other differential diagnoses considered were an intraperitoneal haematoma or an infective intra-abdominal collection. A decision was subsequently made for a lower midline laparotomy due to her increasing pain and persistent tachycardia. The patient received blood transfusion while being prepared for surgery.

During laparotomy, a large haematoma was found within the rectus sheath (Figure 2). There was persistent oozing of blood from the right inferior aspect of the rectus muscle just above the peritoneal layer. The oozing stopped after a figure-of-eight stitch was applied to the oozing artery. Upon entering the peritoneum, there was no haematoma or collection. The uterus, intestines and appendix were normal. The intra-operative diagnosis was rectus haematoma. To close the abdomen, we applied multiple interrupted size 1/0 polypropylene sutures before skin closure with metal clips.

The patient's recovery was uneventful. She was discharged from our centre 4 days after the operation. She delivered a term and healthy baby vaginally at 39 weeks of pregnancy.

DISCUSSION

Spontaneous rectus sheath haematoma (SRH) in pregnancy is rare. In a 26-year PubMed review by Gibbs et al., only 13 cases were reported (1). Only 5 out of the 13 cases (38.5%) were diagnosed before surgery. Other initial diagnoses included infarcted leiomyoma, ovarian torsion, placental abnormalities and intra-abdominal infections. An accurate diagnosis is important as conservative treatment may be an option for this condition in about 30% of cases (1-2). Surgical intervention may result in pre-term delivery (3).

Our patient had two risk factors associated with SRH which causes an increase in intra-abdominal pressure: pregnancy and recurrent coughing. Coughing and other upper respiratory tract infection symptoms were present in 56% of a case series of non-pregnant SRH patients (4).

The diagnosis of SRH in pregnancy with ultrasonography alone is often difficult. Frequently, ultrasonography may show the appearance of a collection or clot but is unable to determine whether the findings are intra or extra-peritoneal. A computed tomography (CT) or a magnetic resonance imaging (MRI) scan can resolve this issue and confirm the diagnosis in the majority of cases (1,5). In our opinion, the benefit of a CT scan to accurately diagnose SRH outweigh its small radiation risk. Patients arranged for CT or MRI scan must be haemodynamically stable. We do not have CT or MRI at our centre, and our patient had persistent tachycardia despite resuscitation.

With the differential diagnoses of infarcted uterine leiomyoma, intra-abdominal haematoma or infective intra-abdominal collection, coupled with haemodynamic instability despite resuscitation, a decision was made for surgical explorative laparotomy. Even up to this point, there were no visible ecchymoses. The diagnosis was apparent once the rectus sheath was entered. Haemostasis was achieved with a figure-of-eight suture to the oozing right inferior epigastric artery. A decision was made to enter the peritoneal layer because bleeding from the inferior epigastric artery has the potential to extend into the peritoneum (6) where an intraperitoneal haematoma can form, and to rule out other pathologies.

We decided to close the abdomen using multiple interrupted polypropylene sutures instead of mass closure with a single continuous polypropylene suture to provide equally distributed and added strength to the expanding gravid abdominal wall.

CONCLUSION

Spontaneous rectus sheath haematoma (SRH) in pregnancy is rare. To diagnose this condition, a high index of suspicion is required. During the physical examination, the Fothergill and Carnett signs should be elicited. Abdominal ultrasound may be insufficient to diagnose SRH in pregnancy and often a CT or MRI scan is required. Patients can be treated conservatively if haemodynamically stable. Surgery should be avoided if possible as surgery can lead to pre-term delivery. For patients requiring surgery, identification and ligation of the bleeding epigastric artery is required to treat SRH. Multiple interrupted sutures should be considered when closing the rectus layer after laparotomy in pregnant patients.

Conflict of interest
No conflict of interest was declared by the authors.

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