

# Case Report: Rectus Sheath Hematoma in a Pregnant Women

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## Abstract :

*Rectus sheath hematoma is a very uncommon cause of acute abdominal pain, especially during pregnancy. Misdiagnosis is likely due to the lack of specific symptoms, which could put the patient and her fetus in danger.. A patient came with sudden severe left upper abdominal pain with history of cough for few days. She was referred from other hospital and diagnosed there as 32 weeks pregnancy preeclampsia with severe disease with HELLP syndrome. Uterus was tender and more prominent on left side, and patient was not in labour. Provisional diagnosis was abruptio placenta with concealed haemorrhage or rupture uterus. But after laparotomy it was diagnosed as a case of rectus sheath haematoma(RSH). Different imaging modalities such as Ultrasonography and CT are the diagnostic methods. Active bleeding can be managed either surgically by evacuating the haematoma and ligating the bleeding vessels. We managed the patient by laparotomy and blood and blood product transfusion and by multidisciplinary approach, but the patient developed multiorgan failure and expired on 16<sup>th</sup> POD. The clinical and diagnostic symptoms of rectus sheath hematoma are highlighted in this case report,*

**Key words:** Rectus sheath haematoma, Pregnancy.

## Background :

Rectus sheath hematoma is a very rare cause of severe abdominal pain due to rupture of inferior epigastric artery.<sup>1</sup> Rectus sheath hematoma (RSH) is a rare condition with only a few cases described during pregnancy. Rectus muscle can contain large amount of blood resulting in hypovolemia and shock if it is associated with pregnancy.<sup>2</sup> In many cases diagnosis is very difficult as it mimic other cause of abdominal pain in pregnancy. A sudden onset of acute abdominal pain after a small trauma, with the presence of a nonspecific abdominal mass other than the gravid uterus, is the most common presentation.<sup>3</sup> Our objective is to describe a case of Rectus sheath hematoma ( RSH ,) and also remind clinicians about this rare case which was initially suspected to be abruptio placenta with concealed hemorrhage or ruptured uterus.

## Case report:

A 35-year-old, G3 P2, with a 32-week singleton pregnancy, admitted to SSMC Mitford Hospital with complaints of severe left upper abdominal pain & cough for 5 days with features of shock. She was referred from a clinic where Diagnosed as 32 weeks a case of PE with severe features with IUGR. Her blood reports on discharge certificate were as follows- CBC –Hb% 7.5gm, platelet 1 lac/cmm ,SGPT—87IU,mm, Creatinin 1.3. Covid—ve and she was diagnosed as a case of 32weeks pregnancy with Preeclampsia with severe disease with Intrauterine fetal growth restriction with HELLP syndrome. She was admitted in that clinic for 2days. As condition not improved with antihypertensive drugs and magnesium sulphate & she was referred at SSMC Mitford Hospital for further management. On admission patient was hemodynamically unstable, crepitations found on both

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lung fields and Fundal height was 32 weeks, abdominal swelling more prominent on left side outside uterine contour on left subcostal region and extremely tender. Patient was not in labour, and pervaginal bleeding was absent. Provisional diagnosis was abruptio placenta with concealed haemorrhage or rupture uterus.

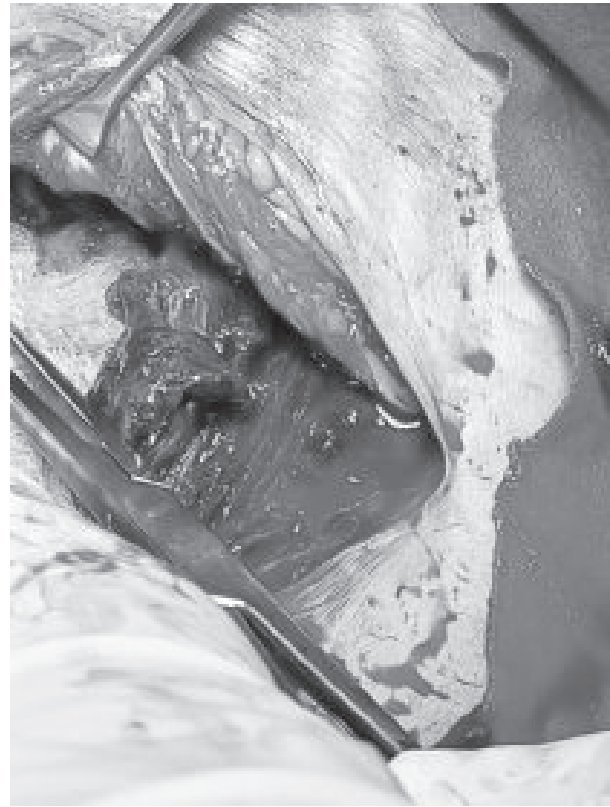
Abdominal ultrasonography detected alive fetus and no retro-placental haematoma, but there was collection in pouch of Douglas. A well-defined, hypoechoic mass in the left upper quadrant of the abdomen detected but origin of which could not be identified. Resuscitation was done and analgesics given for pain. Still pain increased in intensity with tense swelling in left upper abdomen. The patient underwent exploratory laparotomy because of severe pain & unstable hemodynamics, during separation of the rectus muscle, left rectus muscle found black and necrosed and a large haematoma due to rupture of inferior epigastric artery, extending on whole left rectus muscle seen which is about 10cm/4cm and there was continuous oozing of blood which percolate through the peritoneum into the peritoneal cavity, uterus was intact. After delivery of an alive intrauterine growth

restricted fetus by lower segment caesarean section and after closure of uterus, a drain kept in peritoneal cavity. Hematoma was partly evacuated by compression on it and several mattress suture given in rectus muscle at different site to achieve hemostasis. Another drain was given over rectus and abdomen closed after proper haemostasis.

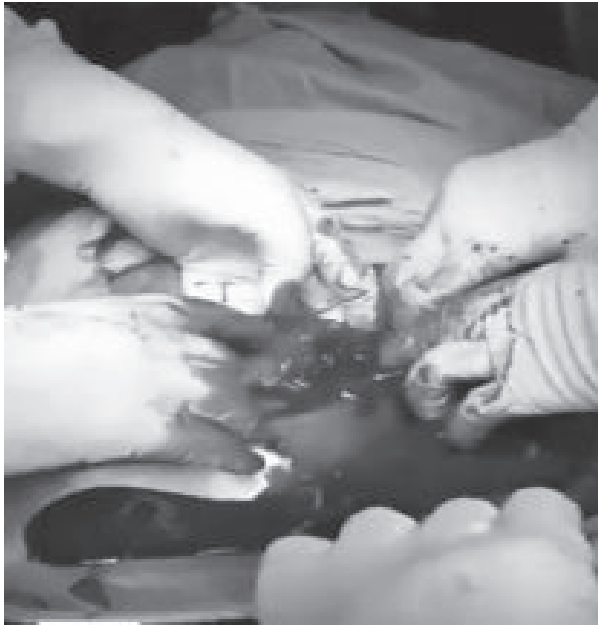
But postoperatively patient was on life support, first 12hrs was uneventful then endotracheal discharge turned greenish on next day. Crepitations were present over both lungs. Blood mixed mucoid discharge come through endotracheal tube, this condition continued till 10th POD. She developed pneumonia but was COVID negative on consecutive two reports. Patient was managed by of multidisciplinary approach, but she was never fully conscious again. Initially restless while any procedure. Gradually became nonresponsive from 8<sup>th</sup> POD. Gradually her S. bilirubin & SGPT-raised, FDP, D-dimer, Fibrinogen also raised. Later patient expired at 16th postoperative day due to nosocomial infection in ICU followed by septicemia with multiorgan failure.



**Fig.-1:** Haematoma seen during separation of rectus



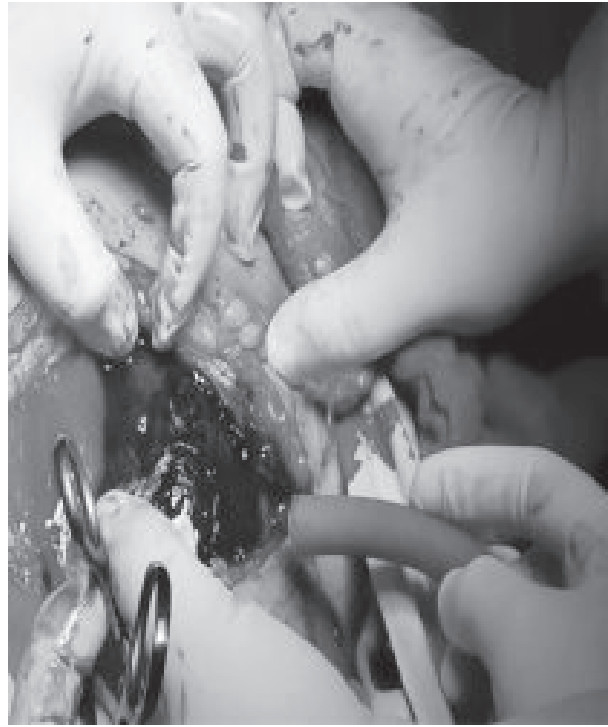
**Fig.-2:** Haematoma



**Fig.-3:** Free blood in peritoneal cavity

#### **Discussion:**

Rectus sheath hematoma is a rare condition. RSHs are mostly caused by trauma of the inferior epigastric artery, during contraction of rectus muscle branches of inferior epigastric artery exposed to shearing stresses. Because of this, strong muscular contraction may cause trauma of the inferior epigastric artery, leading to a RSH.<sup>2</sup> It could occur spontaneously or after trauma, twisting, sneezing coughing in case of pneumonia. Anticoagulation therapy may aggravate the situation, arterial hypertension and atherosclerosis have also been identified as risk factors.<sup>4</sup> Iatrogenic coagulation abnormalities, vascular abnormality, female sex are also risk factors<sup>2</sup>. In addition, during pregnancy, spontaneous haematoma occurs when the abdominal distension results in stretching and tearing of the epigastric vessels<sup>5</sup>. Here coughing with coagulation abnormality due to HELLP syndrome are the probable predisposing factors. Symptoms may be severe abdominal pain, nausea, vomiting, fever, dizziness. Signs may be abdominal mass, abdominal wall ecchymosis, tachycardia, peritoneal irritation etc. A clinical examination may show Fothergill's sign (an abdominal mass which stays palpable and becomes tenderer during contraction of the rectus muscle), Carnett's sign (an increase of pain on tensing of the



**Fig.-4:** Rectus after repair

abdominal muscles), Cullen's sign (periumbilical ecchymosis), or Turner's sign (flank ecchymosis)<sup>2</sup>. Because posterior sheath is deficient below umbilicus, haematoma may cause peritonitis and obstetrician may confuse with other obstetric condition such as abruptio placenta or ruptured uterus.<sup>5</sup> Diagnosis of rectus sheath haematoma in pregnancy may be difficult and challenging in pregnancy because of enlarging abdomen and other symptoms which can mimic during pregnancy such as nausea and vomiting in pregnancy and some musculoskeletal symptoms and because pregnant uterus may make a confusion with mass of RSH. Diagnosis is also very difficult as it is not considered as initial differential diagnosis. The diagnosis was not even considered until it was identified at the time of surgery.<sup>3</sup> Differential diagnosis in pregnancy may be acute abruptio placentae, infarcted myoma, preterm labor, uterine rupture, or HELLP syndrome.<sup>6</sup> Laboratory results typically show a significant decrease in the Hb level. Furthermore, coagulation abnormalities may be detected<sup>2</sup>. Ultrasonography and CT are the diagnostic methods of choice in cases of RSH, CT permits a precise determination of the localization, size, and extension of the hematomas.<sup>7</sup> But radiation hazards limits the use in pregnancy, MRI can safely use in

pregnancy to localize size and extension. Most rectus sheath haematomas can be managed conservatively with analgesics. If necessary, fluid resuscitation and reversal of anticoagulation and/or antiplatelet therapy should be carried out with expert advice from haematologists. Active bleeding can be managed either surgically by evacuating the haematoma and ligating the bleeding inferior epigastric vessels or radiologically with catheter embolization.<sup>8</sup> In case of rupture into peritoneum / active bleeding with unstable hemodynamic states prompt laparotomy is indicated.<sup>9</sup>

**Conclusion:** Diagnosis of an RSH in pregnancy is challenging. High index suspicion on the part of obstetrician is required to diagnose the condition. RSH should be included in the differential diagnosis of patients with abdominal pain with unstable hemodynamics during pregnancy.

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