

## Ruptured Subcapsular Liver Hematoma

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### 1. Abstract

Subcapsular liver hematoma is a rare complication of pregnancy, most often occurring in the setting of preeclampsia or HELLP syndrome. It is associated with very high maternal and fetal morbidity and mortality, hence the importance of early diagnosis before rupture. We report a case of ruptured subcapsular liver hematoma managed in the maternity department of the Mother and Child Hospital Abderrahim El Harrouchi, with a fatal maternal outcome.

### 2. Introduction

Subcapsular liver hematoma is a rare complication of pregnancy, with an incidence ranging from 1 in 45,000 to 1 in 225,000 births. It is a severe condition that may rupture, with maternal and fetal mortality rates reaching 50% and 80%, respectively. It is often diagnosed when the clinical picture progresses to hemorrhagic shock.

### 3. Case Report

A 28-year-old woman with no significant past medical history, gravida 4 para 4, was referred from Hassan II peripheral hospital for severe preeclampsia at six months of pregnancy. She had received 500 mg of alpha-methyl dopa, 1 mL of nicardipine, and a loading dose of magnesium sulfate before referral for further management.

During ambulance transfer, the patient developed a seizure. On admission to the university hospital, she was unconscious, with unrecordable blood pressure, bradycardia at 35 bpm, and oxygen saturation of 64%.

She was taken to the operating room where obstetric ultrasound revealed a non-viable singleton pregnancy with massive intra-abdominal effusion. Laboratory findings showed HELLP syndrome:

- Hemoglobin: 6.3 g/dL
- LDH: 1770 IU/L
- Platelets: 50,000/mm<sup>3</sup>
- Elevated liver enzymes (AST 455 IU/L, ALT 345 IU/L)

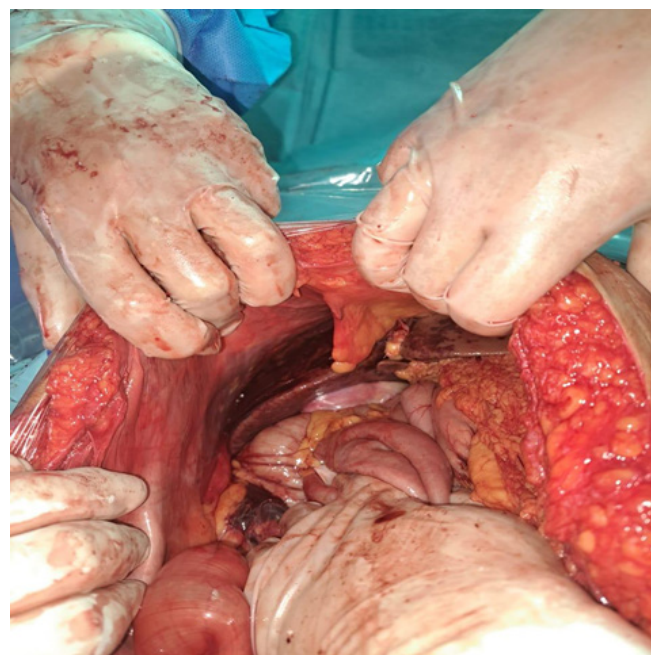
- Functional renal failure (creatinine 16.5 mg/L, urea 0.9g/L)

An emergency cesarean section for maternal rescue was performed. Intraoperatively, approximately 2 liters of hemoperitoneum were evacuated, requiring fluid resuscitation and transfusion of three units of packed red blood cells.

A male stillborn infant weighing 1100 g was delivered. No retroplacental hematoma was observed. After uterine closure, uterine atony occurred, requiring triple vascular ligation and administration of 800 mg rectal medication.

Exploration of the abdominal cavity was difficult due to active bleeding. Extension of the incision revealed a ruptured subcapsular liver hematoma with ongoing hemorrhage. Hemostasis could not be achieved after 30 minutes, leading to packing with four surgical compresses and placement of a Redon drain.

The patient subsequently developed irreversible cardiopulmonary arrest unresponsive to resuscitation measures.



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#### **4. Discussion**

Subcapsular liver hematoma complicates approximately 1 in 45,000 to 1 in 225,000 pregnancies. It is most often associated with preeclampsia, with or without eclampsia, or HELLP syndrome, and carries high maternal and fetal mortality.

Clinically, it should be suspected in cases of right upper quadrant pain, nausea, vomiting, or jaundice in a hypertensive context. Hepatic ultrasound is essential for diagnosis and follow-up of unruptured hematomas.

Symptoms may vary, but typical presentation includes epigastric or right hypochondrial pain, often radiating to the shoulder. In cases of rupture, hemorrhagic shock is common.

Diagnosis relies on imaging, particularly ultrasound and abdominal CT scan. Ultrasound typically shows a biconvex subcapsular collection, most often in the right liver. CT scan is more accurate in identifying hepatic origin and associated hemoperitoneum.

Management depends on the severity, ranging from conservative treatment (hemodynamic support, transfusion, correction of coagulopathy) to arterial embolization or surgical intervention (packing, sutures, hepatic resection, or even liver transplantation in severe cases).

In cases of rupture, median laparotomy allows fetal extraction, exploration, drainage, and hepatic packing, as performed in our case.

#### **5. Conclusion**

Subcapsular liver hematoma is a rare but life-threatening complication requiring rapid diagnosis and multidisciplinary management involving obstetricians, intensivists, pediatricians, visceral surgeons, and interventional radiologists.