Subcapsular Liver Hematoma (SCLH) is a rare but life-threatening complication of preeclampsia with severe features and HELLP syndrome.

Pathophysiology

Fibrin deposition within hepatic sinusoids leading to sinusoidal obstruction, hepatic ischemia

Incidence

1 in 67,000 preeclampsia births

1 in 2,000 HELLP syndrome births

Clinical Presentation & Diagnosis

Epigastric vs RUQ pain; abdominal distension; hypotension

Diagnosis usually made prior to catastrophic complications such as hepatic rupture

Markedly elevated aminotransferases; imaging findings consistent with hematoma formation

Management

Conservative management in vast majority of cases (blood transfusions, BP control, delivery)

Hepatic artery embolization, surgical exploration and packing, liver transplantation

Mortality Associated with Hematoma Rupture

8% maternal mortality

44% perinatal mortality

UMass Chan MEDICAL SCHOOL

SOAP Society for Obstetric Anesthesia and Perinatology

Abhinav Prasad, MD; Anthony Schwagerl, MD, PhD; Laura Cohen, DO University of Massachusetts Chan Medical School

Society for Obstetric Anesthesia & Perinatology Annual Conference 2026 Montreal, QC

A 39-year-old G1P0 patient presents to L&D triage with 10 hours of severe abdominal pain. She was found to be pale, tachycardic, hypertensive, and with intrauterine fetal demise.

Global Timeline of Events

~03:00
Onset of severe abdominal pain + 2 syncopal episodes

12:52
Presentation to L&D and ultrasonographic identification of IUFD

14:29-17:37
Emergent cesarean delivery for concern of placental abruption or uterine rupture

18:00
Arrival at Level 1 trauma center for further exploration of liver injury

Hospital Day 11
Discharge to home

Intraoperative Events

14:39
Spinal anesthesia achieved

14:51
Low transverse incision made with immediate evacuation of 2L intraperitoneal blood

14:52
Activation of major transfusion protocol by anesthesia team
Total 3u pRBC, 2u FFP, 1u PLT

14:54
Hysterotomy performed and fetus delivered

15:05
Hysterotomy closed without resolution of bleeding, now identified to be coming from the upper abdomen

15:10
STAT intraoperative general surgery and vascular surgery consult obtained

15:36
General anesthesia induced; endotracheal tube placed. Additional vascular access obtained

15:55
Vertical midline incision made, multiple large subcapsular liver hematomas noted with some ruptured

17:00
Ruptured hematomas packed

17:00
Bleeding temporized, temporary abdominal closure system placed

17:15
Decision made to transfer patient to trauma/transplant center

Abhinav Prasad, MD; Anthony Schwagerl, MD, PhD; Laura Cohen, DO
University of Massachusetts Chan Medical School
Society for Obstetric Anesthesia & Perinatology Annual Conference 2026
Montreal, QC

Workup for abdominal pain concerning for hemorrhage in late pregnancy should include concern for extra-uterine causes of bleeding, such as liver capsule rupture.

Broaden the differential!

- Hemodynamic instability in pregnancy can be the result of a broad range of pathologies
- Obstetric bleeding (placental abruption, uterine rupture, etc.)
- Extra-uterine bleeding (splenic artery aneurysm, SCLH, etc.)
- Keep in mind that negative bedside ultrasound exams are not 100% sensitive in identifying hemoperitoneum

Call for help early.

- Unidentified source of massive hemorrhage should necessitate early calls to general surgery, vascular surgery, and/or interventional radiology
- Clear and frequent communication between team members helps facilitate resuscitation

Numbers can be deceiving.

- Pregnancy leads to a high-flow, low-resistance cardiovascular system.
- Massive blood loss of up to two liters (30-35% of blood volume) can present with normal vital signs
- Hemodynamic instability can be impending and precipitous

Role of the anesthesiologist.

- Remain adaptable to rapidly changing surgical contexts
- Identify when conversion to general anesthesia is appropriate
- Acquire blood products early before impending collapse
- Utilize resources such as POC viscoelastic tests to lead targeted resuscitation efforts

Abhinav Prasad, MD; Anthony Schwagerl, MD, PhD; Laura Cohen, DO University of Massachusetts Chan Medical School
Society for Obstetric Anesthesia & Perinatology Annual Conference 2026 Montreal, QC