

Spontaneous liver rupture in parturient in the absence of preeclampsia or HELLP syndrome

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Background

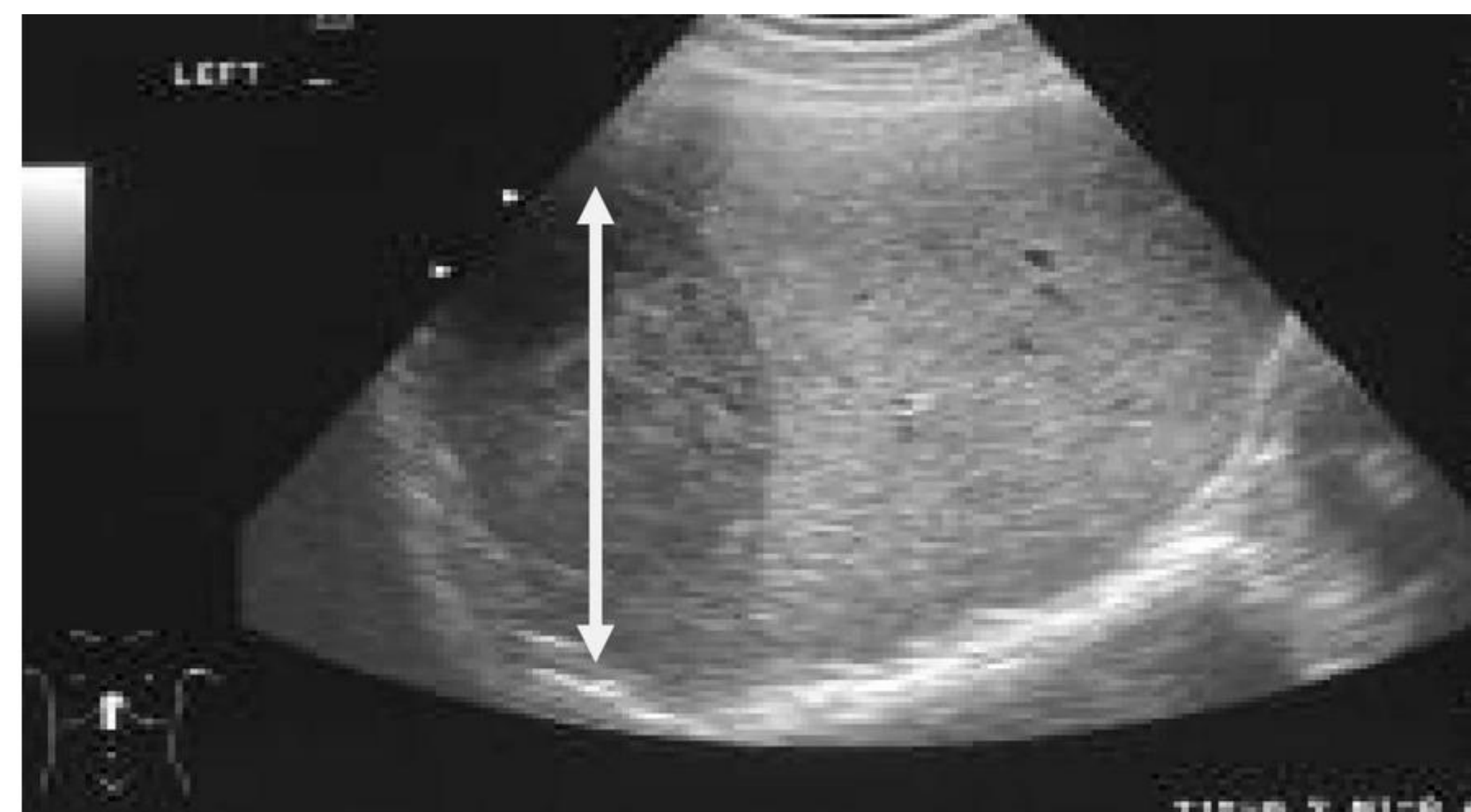
- Spontaneous liver rupture during pregnancy is a rare event, with an estimated incidence of 1 in 45,000 live births.
- Estimated maternal mortality of 15 to 59 percent.
- Majority of cases are associated with severe preeclampsia or HELLP syndrome in which liver rupture can occur in 1 to 2% of patients.
- However, hypertensive disorders may present subtly or be poorly characterized.
- In our report, we describe a case of spontaneous liver rupture in a G2P0010 patient, with a history of poorly characterized, unmedicated, chronic hypertension, yet non-significant preeclampsia or HELLP labs.

Case Report

- A 28-year-old G2P0010 female at 33 weeks 4 days gestation, presented to Labor and Delivery (L&D) for elevated blood pressure readings at home and mild headaches.
- Past medical history notable for sporadic elevated blood pressure readings, without a formal diagnosis of HTN and no medications. Her preeclampsia labs were normal.
- Blood pressure was recorded as 140/78. She was discharged. At 34 weeks EGA her BP was 124/86 in the clinic.
- Later that day, she presented to L&D with a chief complaint of sharp abdominal pain, found to have fetal bradycardia.
- She was brought to the OR for an emergency cesarean section, where she became hypotensive.
- Two liters of blood were discovered in the abdomen. Massive transfusion protocol was initiated. The baby was rapidly delivered and Acute Care Surgery was paged.
- The source of the bleed was found to be a capsular tear at the inferior edge of the left inferior segment of the liver, which was controlled with cautery and with surgical packing.
- Post op day 1, she was surgically closed and extubated. Post op day 10, she was discharged home with her newborn.

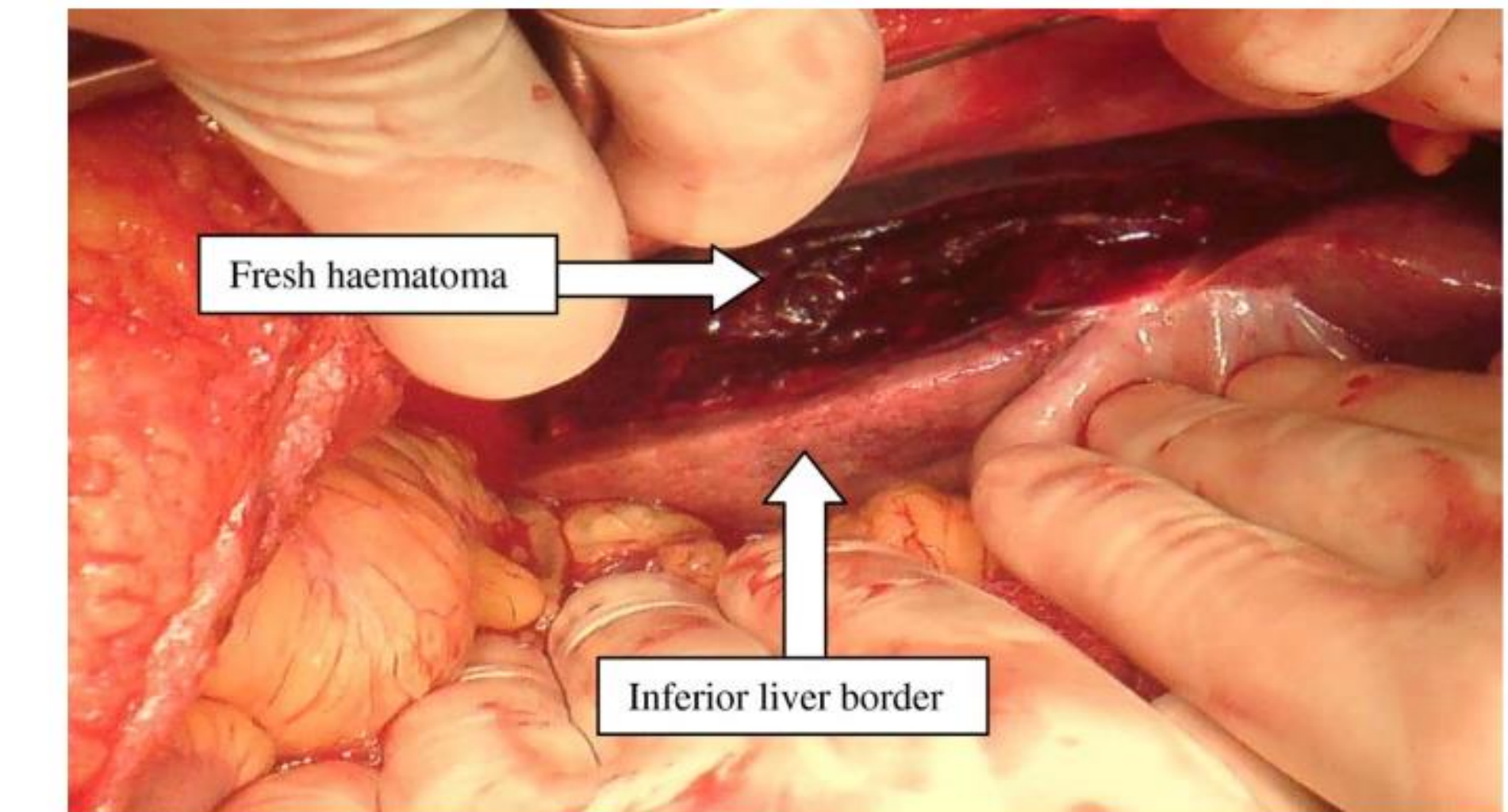
Discussion

- In addition to hypertensive disorders, case reports indicate that spontaneous liver rupture in pregnancy is also correlated with pre-existing liver disease states such as hepatocellular carcinoma, hepatic adenoma, hepatic abscess, acute fatty liver of pregnancy.
- The etiology is theorized to be fibrin deposition in liver vasculature, causing hepatic microinfarction. When these weakened vessels experience hypertension, they can cause hematoma and with expansion, capsular rupture.
- In our case, the patient had a history of sporadic elevated blood pressure readings, yet no diagnosis of chronic hypertension, preeclampsia, HELLP syndrome, nor elevated labs. Her presentation outside of the context of these is rare.
- However, similar to other patients with spontaneous liver rupture, she presented vague signs and symptoms with abdominal discomfort and hypotension.
- Once recognized, expeditious actions by her care team led to delivery, surgical hemostasis, and resuscitation.
- Hepatic rupture of pregnancy can be difficult to diagnose, yet carries a high rate of maternal mortality, and may present without formal diagnoses.



Liver ultrasound shows large haematoma (white arrow spanning the length of the hyperechoic area representing fresh blood).

Figure 2



Intraoperative finding of a large liver haematoma overlying the infero-lateral border of the liver.

References

1. Vanatta J, Monge M, Bonham CA, Concepcion W. Spontaneous Liver Rupture Associated With Hydatidiform Mole Pregnancy. *Obst Gyn.* 2010;115(2):437.
2. Dekoninck P, Loquet P, Leyman P, Van Leemput J. Spontaneous Hepatic Rupture in a Normotensive Monoamniotic Twin Pregnancy: Case Report and Review of the Literature. *Gynecologic and Obstetric Investigation.* 2010;70(1):69-72.
3. Marsh FA, Kaufmann SJ, Bhabra K. Surviving hepatic rupture in pregnancy—a literature review with an illustrative case report. *J Obstet Gynaecol.* 2003;23:109–13.
4. Rinehart BK, Terrone DA, Magann EF, Martin RW, May WL, Martin JN Jr. Preeclampsia-associated hepatic hemorrhage and rupture: mode of management related to maternal and perinatal outcome. *Obstet Gynecol.* 1999;54:196–202.
5. Kelly J, Ryan DJ, O'Brien N, Kirwan WO. Second trimester hepatic rupture in a 35 year old nulliparous women with HELLP syndrome: a case report. *World J of Emer Surg.* 2009;4, 23.