

Subcapsular Liver Hematoma: A Rare Complication of HELLP Syndrome

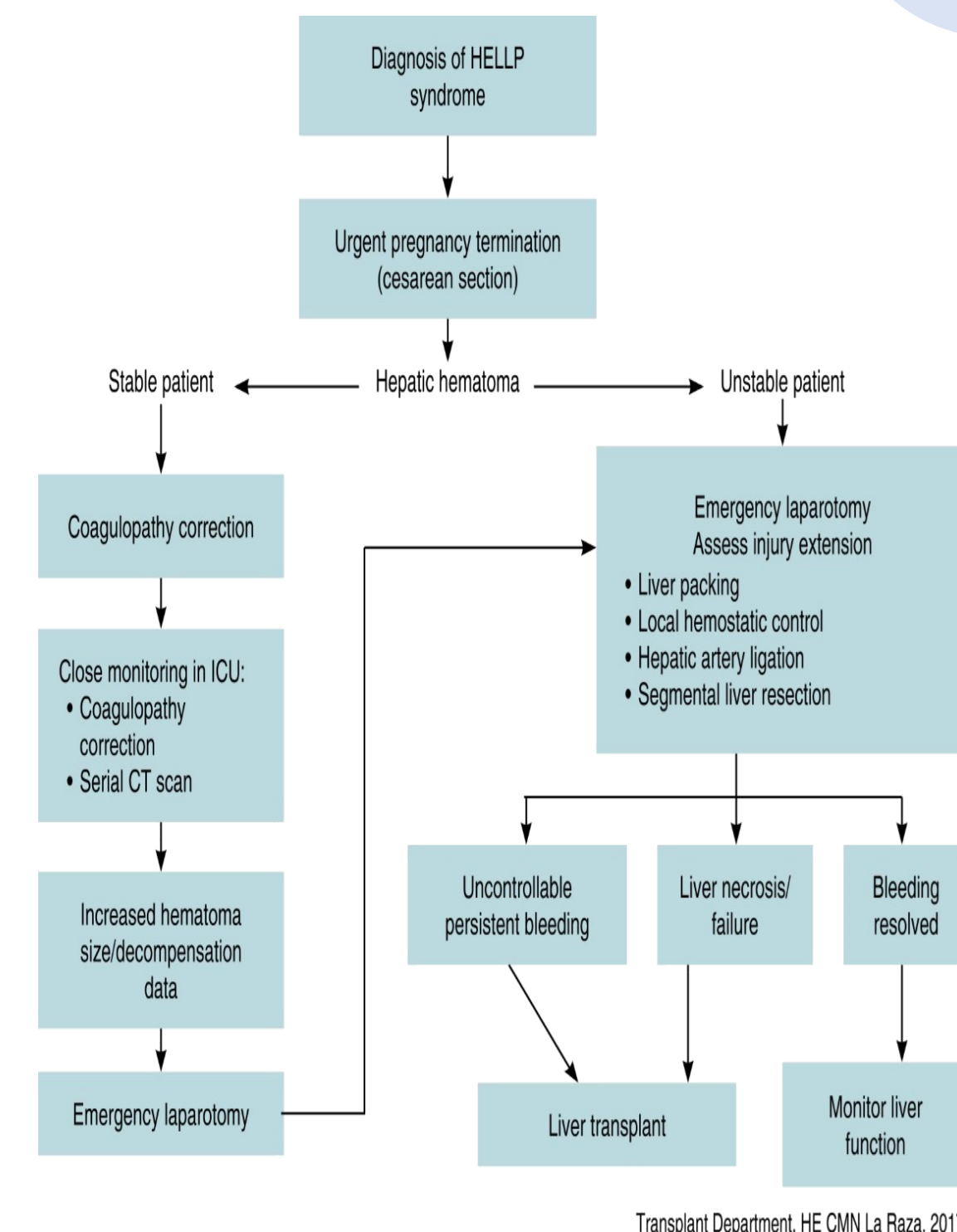
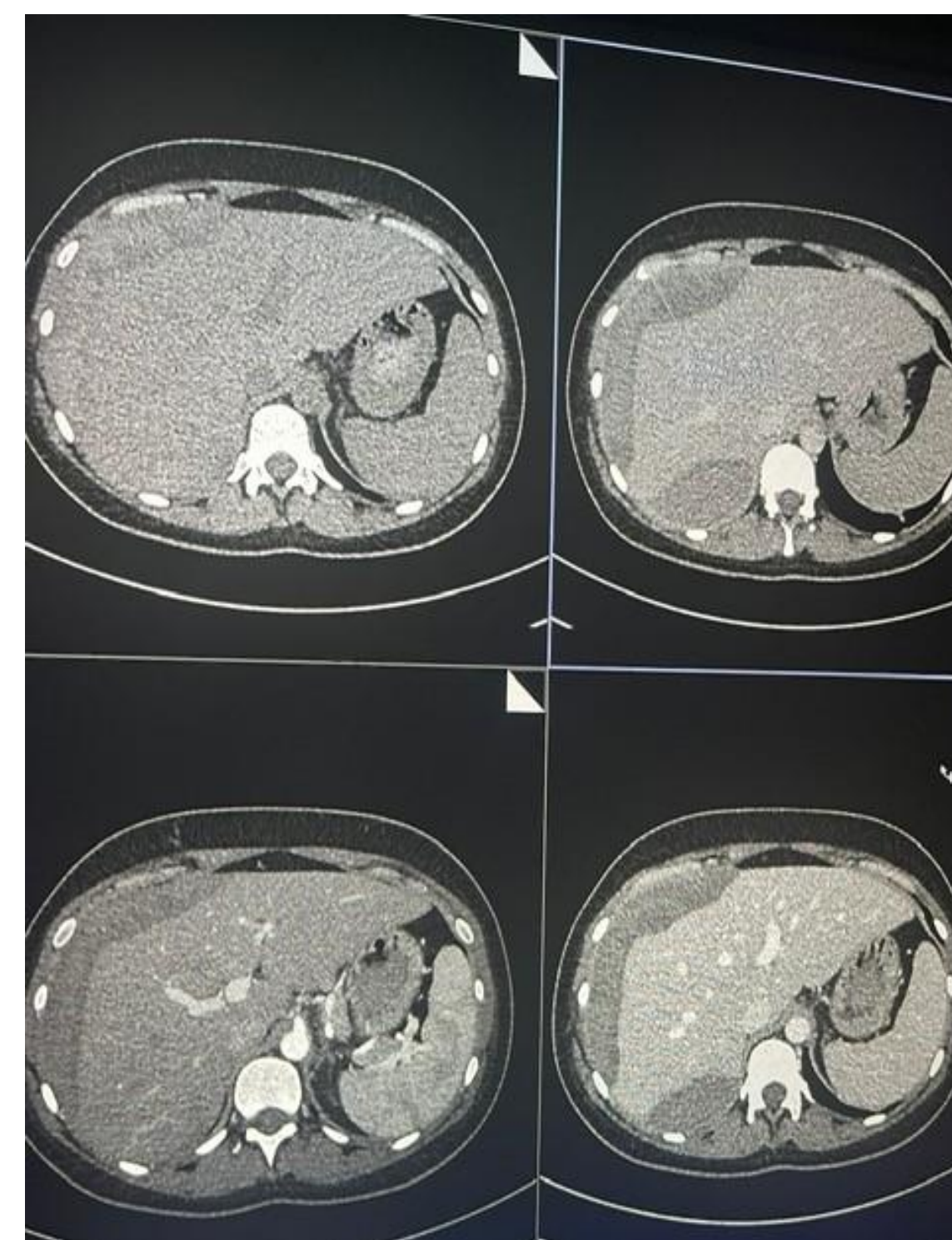
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INTRODUCTION

HELLP is a life-threatening pregnancy complication and is a variant of severe preeclampsia. It can occur in the antepartum or postpartum period and complicates 0.16-0.25% of pregnancies. Major hepatic complications of HELLP include hepatic infarction, subcapsular liver hematoma and hepatic rupture. Subcapsular liver hematoma is thought to occur in 1%-2% of HELLP cases. Subcapsular liver hematoma (SLH) is spontaneous bleeding between the Glisson's capsule and the liver parenchyma. Hepatic rupture is a potentially fatal complication of subcapsular liver hematoma with an incidence of 1:45000 to 1:225000 deliveries.



	Admission Time	Perioperative Labs
Hb	13.4	13.5
Platelets	111	104
Hematocrit	36.4	37
ALT	436	489
AST	456	511
Alkaline phosphatase	159	161
Urate	375	380

CASE REPORT

The patient, a primiparous woman, presented with lower back pain at 40+4 weeks gestation. Upon admission, she had no clinical signs of preeclampsia, but a dipstick test showed +1 protein in her urine and her blood pressure was borderline raised. A full blood workup for preeclampsia was ordered. Initial plan was for admission for observation and follow-up of blood results for further management. During the patient's stay, she experienced a vasovagal episode in the shower, which prompted a review of her condition. She complained of severe left shoulder tip pain and right upper quadrant pain. At this point, her blood pressure was 151/90 with hyperreflexia, and protein creatinine ratio (PCR) was 41. A diagnosis of preeclampsia was made, and a loading dose of magnesium sulphate (MgSO₄) was given with a maintenance dose continued. Decision was made to deliver her baby via emergency Caesarean section due to decelerations noted on CTG. Spinal anaesthesia was performed uneventfully. On entering the abdomen, haemoperitoneum (200mls) was noted by the surgeons. There was no evidence of uterine rupture and the baby was delivered in good condition. The patient required phenylephrine infusion for maintenance of blood pressure. Due to ongoing bleeding, major haemorrhage protocol was activated. Two units of RBCs and 2g of fibrinogen were transfused, and 1g of Tranexamic acid was given. A liver surgeon was consulted and conservative management was decided upon. The patient had a 9-day stay in the ICU and did not require any further surgical intervention. Serial CT scans showed a large subcapsular hematoma contouring and compressing the right lobe of the liver, measuring up to 5cm in depth, with numerous sites of active arterial extravasation arising from the surface of the right lobe. The CT scan report (Day 1 post-op) showed a moderate decrease in size in the subcapsular component and interval decreased compression of the right lobe of the liver. There was persistent but reduced active extravasation along the contour of the right lobe of the liver. The CT scan report at the time of discharge showed no active extravasation and a stable subcapsular hematoma. Overall, the patient's condition was managed with appropriate medical interventions, including MgSO₄, blood transfusions, and Tranexamic acid. The patient's subcapsular liver hematoma was diagnosed promptly and conservative management was feasible, resulting in a favorable outcome.

DISCUSSION

Maternal mortality in cases of SLH ranges from 17% to 59%, depending on whether the hematoma ruptures, timing of diagnosis, and availability of therapeutic interventions. A vigilant multidisciplinary approach in the management of this potentially fatal complication of HELLP will improve outcomes. Harboring a high index of suspicion in patients with preeclampsia/HELLP with RUQ or shoulder tip pain is important so this potentially life-threatening diagnosis is not missed. Conservative management, including intensive medical support with infused fluid, and replacement of blood and blood products could be applied in non-bleeding situations and for patients with stable hemodynamics. Surgical interventions range from liver packing, ligation of hepatic arteries, liver resection, and liver transplant in severe cases. In this case, the patient had evidence of evolving HELLP syndrome with raised liver function tests and a drop in platelet count. The subsequent diagnosis of subcapsular liver hematoma further underscores the potential for these complications to occur in patients with preeclampsia and the HELLP syndrome

CONCLUSION

Subcapsular liver hematoma is a rare but serious complication of preeclampsia and the HELLP syndrome. It's early recognition and management is crucial to minimize morbidity and mortality. In order to promptly diagnose and manage this potentially fatal complication, a multidisciplinary approach involving maternal medicine specialists, anaesthetists, liver surgeons and intensive care physicians, is crucial. Further research is needed to better understand the pathogenesis of SCH and to identify strategies for it's prevention and management.

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