



## Case Report

# HELLP Syndrome with surgical complication

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### ABSTRACT

HELLP syndrome (H: haemolysis; EL: elevated liver enzymes; LP: low platelet) was first described in 1982.<sup>1</sup> The incidence of HELLP syndrome is reported as 0.17%-0.18% of pregnancies. It is common among multiparous and older women.<sup>2</sup> Incidence is high among women with pre-eclampsia.<sup>3</sup> In rare circumstances patients with HELLP syndrome may present with complications of hepatic infraction, hepatic c rupture with hemorrhage. Early diagnosis and management of HELLP syndrome reduces the maternal and perinatal mortality and morbidity and surgical complications.

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## 1. Case presentation

25 year old G<sub>2</sub> P<sub>1</sub> L<sub>0</sub> at 32 weeks of gestation brought to emergency with active seizure. On examination patient was unconscious, up rolling of eyeballs was present. Blood pressure was 172/112mmhg, pulse-110 bpm, Urine albumin 3+. Baseline blood investigations showed hemoglobin-12.8%, Platelet- 1.64 lakh/mm<sup>3</sup>, urea- 35mg/dL, creatinine-1.1mg/dL, S.Bil-0.8%, INR-1.11. Patient was started on magnesium sulphate by Pri t chard's regime and la betalol 20mg. Patient was then taken for emergency LSCS (lower segment caesarean section) for termination of pregnancy. A live female baby was delivered. After 7 hours of LSCS patient developed hypotension and abdominal distention. Ultrasound scan was done which showed gross free fluid in peritoneal cavity. A flank drain was inserted under local anesthesia under ultrasound guidance which drained 400mL of blood. Exploratory laparotomy was done 12hrs after LSCS. There was rectus sheath hematoma ~20cc. Liver capsular bleeding was present. Liver packing was done and patient was transferred to higher center. Prior to transfer she

was transfused 6 units of PRBC and 4 units of FFP.

When patient was received she was irritable, her blood pressure was 180/116mm Hg, pulse-86bpm. She had abdominal distention and generalized tenderness over abdomen. Blood investigations showed Hemoglobin 8.1 (post PRBC transfusion 6 units), Platelet count- 36x10<sup>3</sup>/mm<sup>3</sup>, Serum bilirubin-2.4mg/dL, AST- 8519 U/L, ALT- 5230 U/L, ALP- 806 U/L, INR- 1.8, Urea- 84 mg/ dL, Creatinine-2.2mg/dL, S. Na<sup>+</sup> 137mEq/ dL, S.K<sup>+</sup> 6.1 mEq/L.

Re-exploratory Laparotomy was done in view of ongoing bleed. Capsular bleeding from liver surface was still present. Liver packing was done. 6 units of FFP, 3 units of PRBC and 2 units of PRP were transfused. Patient was shifted to ICU. Patient developed Acute Renal Failure with hyperkalemia which lead to cardiac arrest.

## 2. Discussion

The pathogenesis of HELLP syndrome is not completely understood. The term HELLP was first assigned by Weinstein in 1982. It is a rare manifestation of hypertensive disorders of pregnancy and represents the severe end of pre-eclampsia spectrum.<sup>1</sup> Significant signs and symptoms

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in patient with preeclampsia include headache, blurred vision, clonus, altered consciousness, thrombocytopenia, increasing serum creatinine level and abnormal liver function tests.<sup>4</sup>

Abnormal placental development lead to increased oxidative stress this leads to release of cytokines, nitric oxide, prostaglandins, endothelin and variety of other factors. This results in complement activation which leads to endothelial dysfunction. This leads to aggregation of platelets and eventually thrombocytopenia. Intima of small blood vessels gets damaged along with fibrin mesh deposits. Haemolysis occurs due to shearing stresses on red blood cells as the pass through these vessels. This leads to deposition of microthrombi and fibrin in kidney which causes acute renal failure and obstruction of sinuses in liver which disrupts the hepatic blood flow and leads to swelling, ischemia and hepatic rupture.<sup>5</sup> Maternal complications in such cases are placental abruption (16%), disseminated intravascular coagulation (DIC) (6-20%), acute renal failure (7%) and pulmonary edema.<sup>6</sup>

The first case of spontaneous liver rupture was first described by Abercrombie in 1844.<sup>7</sup> Hepatic rupture in pregnancy is rare. Incidence is 1 in 45,000 to 1 in 225,000 deliveries. Maternal mortality is 60-80%.<sup>8</sup>

Platelet count is the best indicator of HELLP syndrome. Progressive thrombocytopenia may be the first clue for the diagnosis of HELLP syndrome.<sup>9</sup> A positive D-dimer test in setting of preeclampsia is predictive of patients who will develop HELLP syndrome.<sup>10</sup>

### 3. Conclusion

Surgical complication of HELLP syndrome is rare. Thrombocytopenia is the early predictor of HELLP syndrome. Once diagnosis is made, termination of pregnancy should be done irrespective of gestation of pregnancy to reduce maternal morbidity and mortality and surgical complications.

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None.

### References

- Weinstein L. Syndrome of hemolysis, elevated liver enzymes, and low platelet count: a severe consequence of hypertension in pregnancy. *Am J Obstet Gynecol.* 1982;142:159–167.
- Mihu D, Costin N, Mihu CM. HELLP syndrome - a multisystemic disorder. *J Gastrointestin Liver Dis.* 2007;16:419–424.
- Haram K, Svendsen E, Abildgaard U. HELLP syndrome: Clinical issues and management. A review. *BMC Pregnancy Childbirth.* 2009;9:8.
- Lapinsky SE, Kruczynski K, Slutsky AS. Critical care in pregnant patient. *Am J Respir Crit Care Med.* 1995;152:427–430.
- Reubinoff BE, Schenker JG. HELLP syndrome - a syndrome of hemolysis, elevated liver enzymes and low platelet count - complicating preeclampsia- eclampsia. *Int J Gynaecol Obstet.* 1991;36:95–102.
- Sullivan CA, Magann EF, Perry KG. The recurrence risk of the syndrome of hemolysis, elevated liver enzymes, and low platelets: Subsequent pregnancy outcome and long term prognosis. *Am J Obstet Gynecol.* 1995;172:125.
- Hemorrhage of the liver. *Lond Med Gaz.* 1844;34:792–794.
- Nelson EW, Archibald L, Albo D. Spontaneous hepatic rupture in pregnancy. *Am J Surg.* 1977;134:817–820.
- Magann EF, Perry KG, Meydrech EF, Harris RL, Chauhan SP, Martin JN. Postpartum corticosteroids: accelerated recovery from the syndrome of haemolysis, elevated liver enzymes, and low platelets (HELLP). *Am J Obstet Gynecol.* 1994;171:1154–1158.
- Neiger R, Trofatter MO, Trofatter KF. D-dimer test for early detection of HELLP syndrome. *South Med J.* 1995;88:416–419.

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