



HELLP Syndrome: Report of Three Cases with Review of Literature

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Abstract:

Unexpected and fulminant course of HELLP syndrome as well as absence of classical signs of preeclampsia can confuse physician and lead to rapid maternal death. We present three different cases of HELLP syndrome, two antenatal cases with associated severe preeclampsia and one post Caesarean section without associated preeclampsia. We discuss the challenges in diagnosis, management, and outcome which will eventually may help to optimize treatment outcome in these patients.

Key words: Eclampsia, HELLP Syndrome, Maternal Mortality, Obstetrics, Pre-Eclampsia.

Introduction

HELLP syndrome (H: haemolysis; EL: elevated liver enzymes; LP: low platelet count) is a serious complication of severe pre-eclampsia with high maternal mortality and morbidity. The incidence of HELLP syndrome is reported as 0.5% to 9% of all pregnancies, and in 10% to 20% women with severe pre-eclampsia. Timely diagnosis and management of HELLP syndrome reduces the maternal and perinatal mortality and morbidity [1].

Case Reports

Case 1

A 27 year old primigravida at 36 weeks of gestation was admitted to high dependency unit as referral case from private hospital with complaints of edema feet, headache, blurring of vision and vomiting. She received loading dose of magnesium

sulphate and tab labetalol 100 mg due to suspicion of pre-eclampsia. On general examination patient was conscious, pulse 96 per minute, blood pressure 160/110 mm of Hg, urine albumin 2+, with generalized edema and exaggerated tendon reflexes. Based on obstetrical examination delivery by vaginal route was planned. Baseline investigations showed hemoglobin: 13.5 gm%, total leukocyte count 16800/cu.mm, platelets 59,000/cu.mm (after receiving 4 platelets transfusion), serum alanine transferase: 375 IU, total serum bilirubin: 1.3 mg/dL, international normalized ratio: 1.08, serum creatinine: 1.2 mg/dL and urine microscopy: 20 to 25 RBC per high power field. On obstetric ultrasound, fetal weight was 1.9 kg with amniotic fluid index (AFI) of 8 cm. Patient was managed with labetalol 100 mg thrice daily and injection magnesium sulphate 5 gm intramuscularly 4 hourly. During hospital stay her blood pressure

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was under control, urine output was 50 ml per hour with no hematuria. After 12 hour of admission decision of emergency Caesarean section (LSCS) was taken in view of fetal distress. Under spinal anesthesia emergency LSCS was done and 1.7 kg healthy female child delivered and shifted to mother. Post-operative period was uneventful. Repeat investigation done 24 hour postoperatively showed hemoglobin 11.2 gm%, TLC 18000/cu.mm, and platelet 68000/cu.mm, and serum bilirubin 0.9 mg% and serum creatinine 0.6 mg%. After 72 hour of delivery platelet count was 1 lakh/mm³ with serum alanine aminotransferase of 137 units. Serum alanine transferase and platelets count normalized on day 8. Patient continued with antihypertensive for 6th day post-delivery and discharged on day 12 uneventfully.

Case 2

A 26 year old gravida four para one abortion two with no live issue at 34 weeks of gestation was admitted after being referred from government hospital. She was a case of severe pregnancy induced hypertension (PIH) with cervical encirclage done at 16 weeks. She complained of chest pain and general examination showed healthy conscious patient with mild pallor, icterus, and pedal edema. Her pulse was 88 per minute, blood pressure 120/90 mm Hg, urine albumin 3+ and normal tendon reflexes. Her urine was high colored. Baseline investigations showed hemoglobin 12.7 gm%, total leukocyte count 7600/cu.mm, platelets 21,000/cu.mm, total serum bilirubin 2.6 mg/dL, INR 1.22, serum creatinine 1.3 mg/dL, and serum alanine aminotransferase 175 units. On ultrasound fetal weight was 1.5 kg, AFI 9.2 cm with breech presentation. Patient was managed with four unit of platelets transfusion, injection betamethasone and planned LSCS after removing her cervical encirclage stitch preoperatively in operation theatre. After 12 hour of admission under general anesthesia LSCS was done. A 1.5 kg preterm female child was

delivered and shifted to NICU for further care. Blood loss was around one liter. Post-operatively one unit fresh blood was infused. Patient's blood pressure remained in the range of 130/90 mm Hg. Repeat investigations after 24 hours post-delivery were hemoglobin 11.7 gm%, TLC 11,100/cu.mm, platelet count 41,000/cu.mm, serum bilirubin 0.3 mg% and serum creatinine 0.6 mg%. After 72 hours post-delivery platelet count were 69000/cu.mm. Liver enzymes and urine albumin values came to normal on day 5 post-delivery. Platelet count normalized on day 8 and patient discharged on day 12 with healthy neonate.

Case 3

A 24 year old para one, live one, post LSCS day two, done for fetal distress was referred from private hospital as a case of abdominal distention with low platelet count. No history of hypertension or diabetes was elicited. On general examination patient was conscious with mild pallor, deep icterus and generalized edema. Her pulse was 110 per minute, blood pressure 110/70 mm Hg, urine albumin traces, with normal tendon reflexes. Urine was 10 ml and high coloured on admission. Her abdomen was distended with shifting dullness present. A transverse LSCS scar was present on lower abdomen and wound site was healthy. Baseline investigations showed hemoglobin 7.5 gm%, total leukocyte count 14800/cu.mm, blood sugar 47 mg%, platelets 60,000/cu.mm, total serum bilirubin 7.44 mg, INR 1.56, serum creatinine 2.94 mg. Ultrasound was suggestive of moderate free fluid in abdomen. On tapping yellowish serous fluid obtained which on microscopy shows 8 to 10 leukocyte and 2 to 3 erythrocytes per high power field. Patient managed with injection tazobactam/piperacillin 4.5 gm, injection vitamin K 10 mg, strict input output record 4 hourly, Ryles tube aspiration, 4 hourly blood sugar monitoring, abdominal girth records with intravenous 25% dextrose 4 hourly. After 12 hour of admission repeat investigations

showed hemoglobin 7.2 gm%, total leukocyte count 13500/cu.mm, platelet count 48000/cu.mm, blood urea 41 mg%, serum creatinine 1 mg%, total serum bilirubin 1.8 mg%, and serum alanine aminotransferase 175 units. Two units of fresh frozen plasma, 1 unit fresh whole blood and one unit of platelet were infused after investigations. Her urine output was 80 ml/hour with maintained abdominal girth. After 72 hours of admission her investigations were hemoglobin 8.3 gm%, platelet count 69000/cu mm, total bilirubin 0.9 mg%, serum alanine aminotransferase 35 units, blood urea 85 mg%, serum creatinine 2.1 mg%, serum sodium 143 meq/L, potassium 3.9 meq/L and INR 1.45. Patient was started on injection furesomide by nephrologist. On day 5 of admission serum creatinine normalized. Stitches were removed on 8th day and patient discharged next day.

Discussion

In our antenatal cases we controlled the blood pressure, magnesium sulphate was given to prevent seizures, corrected blood parameters mainly anemia and thrombocytopenia and terminated pregnancy that lead to good both maternal and fetal outcome. In postnatal case symptoms and sign were confusing diagnosis but investigation and high suspicion lead to accurate diagnosis and timely intervention led to optimal outcome. Our main objectives were early detection of risk factors and their treatment, prevention of progression to severe disease and early intervention to prevent maternal death and morbidity. Maternal complications in such cases are disseminated intravascular coagulation (DIC) (6%-20%), placental abruption (16%), acute renal failure (7%) and pulmonary edema [2]. Caesarean section is required to terminate pregnancy for various reason however, platelet count less than 70,000/cu.mm is contraindication for spinal or

epidural anesthesia [3]. Women with a history of HELLP syndrome are at increased risk of all forms of preeclampsia in subsequent pregnancies. The rate of preeclampsia in subsequent pregnancies ranges from 16% to 52%, with higher rates if the onset of HELLP syndrome was in the second trimester. The rate of recurrent HELLP syndrome ranges from 2 to 19% depending upon the patient population studied [4].

Conclusion

Thrombocytopenia is considered as early predictor of HELLP with hypertension. Thrombocytopenia with elevated liver enzyme is best predictor of severity, prognosis and outcome of patient. Once diagnosis made, pregnancy should be terminated irrespective of gestation of pregnancy to avoid maternal complication, mortality and morbidity.

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