Turk J Med Sci
32 (2002) 435-437

Short Report

Serpil DEMİRCİ
Vedat Ali YÜREKLİ

Hellp! S.O.S. Call of a Mother

Department of Neurology, Faculty of Medicine, Süleyman Demirel University, Isparta - Turkey

Received: May 07, 2002

Key Words: Preeclampsia; HELLP syndrome; Status epilepticus; Cerebral thromboembolism; Hemolysis

HELLP syndrome is a serious, life-threatening form of pre-eclampsia that is a major cause of maternal and perinatal mortality and morbidity, particularly in developing countries. The syndrome is characterized by a typical laboratory triad: hemolysis, elevated liver enzymes and low platelets (1). It can occur in 0.2-0.6% of all pregnancies and 19-27% of cases may show recurrence (2,3). Cardinal findings of the disease are high blood pressure, proteinuria, and epigastric or right upper abdominal pain. The most common neurological findings in pre- eclampsia are headache, visual alterations, convulsions and stupor or coma.

The etiology of the disease is not clear. It is proposed that endothelial imbalance between vasodilatative and vasoconstructive substances causes segmental vasospasms, vasoconstriction and a further increase in endothelial dysfunction. This leads to increased platelet aggregation and intravascular coagulation with fibrin deposition in the capillaries and consecutive microcirculatory disorders (4). If not treated disseminated intravascular coagulation may develop within hours.

We describe a clinically and biochemically severe HELLP syndrome case who had no signs or findings of the disease prior to delivery.

Case Report

A 22-year-old primigravid woman was admitted to a local obstetric hospital at due date with regular contractions. At the third stage of labor, the patient had a generalized tonic-clonic seizure. Since she did not regained consciousness and continued to have seizures, she was referred to the neurology department with a diagnosis of status epilepticus. Past medical history was unremarkable; no pathologic finding had been noted on her routine follow-ups. Upon admission blood pressure, heart rate and respiration rate were normal. She had no fever. She was unresponsive to noxious stimuli. Both pupils were equal in size and brainstem reflexes were preserved. Tendon reflexes were diminished and plantar reflexes were indifferent bilaterally. She continued to have tonic-clonic seizures in the intensive care unit.

Laboratory work-up before delivery, including blood chemistry and urinalysis, was unremarkable. However, within the same day, after delivery there was a remarkable increase in hepatic enzyme levels (SGOT: 4202U/l, SGPT: 3949U/l, LDH: 2943U/l, CPK: 1668U/l). The erythrocyte sedimentation rate was 60 mm/h, bilirubin was 8.3 mg/dl and fibrinogen was 3.38 g/dl. Prothrombin time was 18.5 s and partial thromboplastin time was 31 s. CBC was remarkable for low hemoglobulin (6.9 mg/dl) and thrombocytopenia (29.000 $mm^3/\mu L$), and urinalysis for (++) proteinuria. Antiphospholipid antibodies IgM and IgG and antinuclear antibodies yielded normal levels. There were diffuse bilateral pallidum, thalamus and brainstem hypodensities on cranial tomography. Cranial MRI scanning demonstrated diffuse infarct areas on the medulla, pons and basal ganglia and focal hemorrhagic infarct areas on the right parieto-occipital, left parietal and left temporooocipital lobes (Figure). A symptomatic therapy

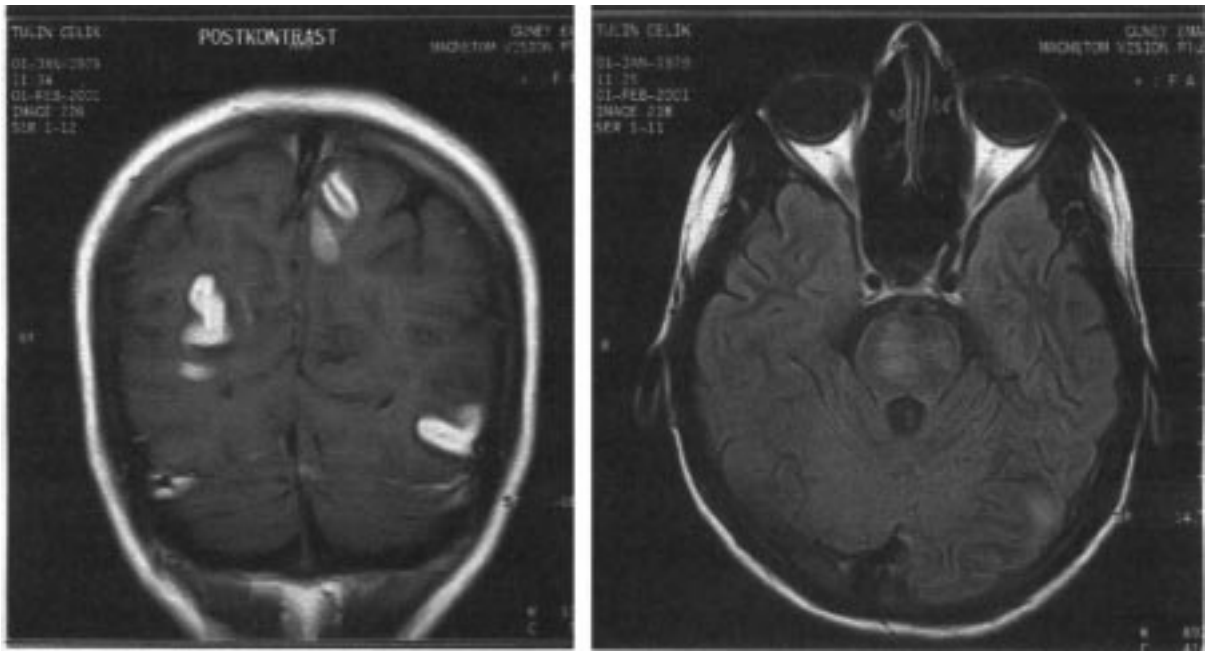

Figure. Coronal and axial T1 MR scans showing hemorrhagic infarction on right parietooccipital, left posterior parietal and left temporooccipital lobes and subacute infarction on right side of pons.

was immediately started including anticonvulsants, anti-edematous agents, fresh frozen plasma, and erythrocyte and thrombocyte suspensions. She was also given low molecular weight heparin. A piece of residual desidua was removed on control gynecologic examination.

Liver enzyme and bilirubin levels started to decrease after the second day of treatment. She regained her consciousness on day 7 and was able to follow commands. She had slight right hemiparesis on neurologic examination. She showed progressive general and neurological improvement. At one and three months, neurologic examination and laboratory work-up were normal.

Given the presence of remarkable laboratory findings the patient was given a diagnosis of Class-I HELLP syndrome. The patient presented with the most common and dramatic neurological complications of the disease: convulsions and coma. However, the peculiarity of this case was that she had no sign of preeclampsia prior to labor. This is a rare but not unexpected circumstance; it has been reported that 6% of cases may have no signs of preeclampsia before delivery (4). Thus, the possibility of preeclampsia should not be ruled out in the differential diagnosis of post-partum neurological complications based on the absence of previous clinical history.

Differential diagnosis of HELLP syndrome refers mainly to illnesses not related to obstetrics with gastrointestinal symptoms, to liver complaints and thrombotic obstructive microangiopathy (5). Thrombotic thrombocytopenic purpura, hemolytic uremic syndrome, systemic lupus erythematosis and antiphospholipid syndrome should be evaluated in the differential diagnosis. Our work-up for the existence of any other disease yielded negative results.

The severity and course of the disease are quite variable. Clinicians should be alert for a higher risk of renal failure, consumptive coagulopathy, pulmonary and cerebral edema, subcapsular liver hematoma and hypovolemic shock (5,6). In our case, despite a rigorous onset and rapid deterioration of the disease a good outcome was observed.

There is no specific treatment for the disease. The treatment mostly consists of delivery and symptomatic theurapeutical regimens to prevent the possible complications. Different results have been reported for the beneficial effect of removal of the placenta (4,7,8). The use of heparin is controversial, because of a high possibility of hemorrhage from an open placental vascular bed, a probable section side or just because of thrombocytopenia. Use of low molecular weight heparin

(LMWH) is recommended after the stabilization of coagulation profile. We used LMWH since the early stage of the disease in spite of hemorrhagic infarction and observed no complication.

In this case, the diagnosis was made easily and at an early stage because the remarkable laboratory findings. However, not all patients may have such definite laboratory findings or show such a full-blown and fulminant course. In the differential diagnosis of post-partum complications HELLP syndrome should be kept in mind even if the clinical history is not consistent with pre-eclampsia. Identification of the disease is not only important for decreasing mortality but also for preventing complications that would develop in following pregnancies since the disease may recur in up to one-third of patients.

Correspondence author:
Serpil DEMİRCİ
Hosdere Caddesi 160/ 8
06550 Çankaya, Ankara - TURKEY
Email: serpildemirci @ hotmail.com

References

1. Weinstein L. Syndrome of hemolysis, elevated liver enzymes, and low platelet count: a severe consequence of hypertension in pregnancy. Am J Obstet Gynecol 142:159-67, 1982.
2. Jones SL. HELLP! A cry for laboratory assistance: a comprehensive review of the HELLP syndrome highlighting the role of the laboratory. Hematopathol Mol Hematol 11:147-71, 1998.
3. Sullivan CA, Magann EF, Perry KG Jr, Roberts WE, Blake PG, Martin JN Jr. The recurrence risk of the syndrome of hemolysis, elevated liver enzymes, and low platelets (HELLP) in subsequent gestations. Am J Obstet Gynecol 171:940-3, 1994.
4. Rath W, Faridi A, Dudenhausen JW. HELLP syndrome. J Perinat Med 28:249-60, 2000.
5. Sibai BM. The HELLP syndrome: much ado about nothing? Am J Obstet Gynecol 162 :311-6, 1990.
6. Sibai BM. Maternal morbidity and mortality in 442 pregnancy with hemolysis, elevated liver enzymes, and low platelets (HELLP syndrome). Am J Obstet Gynecol 169:1000-6, 1993.
7. Magann EF, Martin JN, Isaacs JD, Perry KG, Martin RW, Meydrich IF. Immediate postpartum curettage: accelerated recovery from severe preeclampsia. Obstet Gynecol 81:502-6, 1993.
8. Schlenzig C, Maurer S, Goppelt M, Ulm K, Kolben M. Postpartum curettage in patients with HELLP-syndrome does not result in accelerated recovery. Eur J Obstet Gynecol Reprod Biol 91:25-8, 2000.