A Study of Association between Occurrence of Maternal Eclampsia and HELLP Syndrome

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Eclampsia is regarded as the end point of pre-eclampsia in the spectrum of hypertensive disorders of pregnancy. A prospective study was planned to study the relationship between occurrence of maternal Eclampsia and HELLP syndrome from January 1999 to December 1999. A total of 53 cases of Eclampsia were studied. Only one case of HELLP syndrome was identified among 53 cases studied. It seems likely that Eclampsia and occurrence of HELLP syndrome has different pathologic basis.

Key words: Eclampsia, HELLP syndrome, Pre-eclampsia

Hypertensive disorders of pregnancy are the second most important cause of maternal mortality in Pakistan [1]. The incidence of Eclampsia in U.K is 0.05% [2] as compared with reported incidence of 0.3% in Karachi [3] and 1.3% for Lahore[4]. Haemolytic, elevated liver enzymes and low platelet count (HELLP) is a disorder seen in some cases of pregnancy-induced hypertension. Two variants of HELLP syndrome are described as HEL and HELLP [5]. The aetiology of HELLP syndrome is poorly understood and is hypothesized to be collection of various clinical and pathological manifestations secondary to an insult, probably arising from placenta, leading to intravascular platelet activation and microvascular endothelial damage. This leads to low platelet count and hepatic dysfunction. The aim of the study was to establish the relationship in the occurrence of Eclampsia and the HELLP syndrome.

Materials and Methods

The study was performed at Lady Willingdon Hospital, Lahore from January 1999 to December 1999.The Hospital is a tertiary referral center and has an annual delivery rate around 9,000. Only those cases were included in the study where the patient had seizures during pregnancy after 20 weeks of gestation or within 72 hours of delivery. The patients already known as epileptic or other pre-existing diseases associated with fits were excluded from the study. HELLP syndrome was diagnosed according to the criteria of Sibai et al [5] (Table 1).

Results

During this twelve-month period of study 9,470 maternities took place at the hospital. A total of 140 cases were complicated by Eclampsia. There were 89 primigravidae and 51 multiparous patients. Of the 65 cases managed in the unit of the authors, case notes of 53 patients were complete from investigations point of view. Out of 53 patients only one (1.82%) case fulfilled the criterion for the HELLP syndrome. The haemoglobin was 8.2 gm/dl, platelet count was 60,000/mm^3, Aspartate aminitransferase (AST) was 216 U/L.

Table 1. Diagnostic criteria for HELLP syndrome [5]

Haemolysis
Abnormal peripheral blood smear with nucleated RBC's
Total billirubin > 1.2 mg/dl
Elevated Liver Function tests
Aspartate aminitransferase (AST) > 35
Low Platelets
< 100,000/ mm^3

Discussion

Our study shows that out of 53 cases of Eclampsia only one case was found to have concomitant HELLP syndrome. The exact relation of Eclampsia and HELLP syndrome in literature is not known and to our knowledge our study is first to report this. We postulated that Eclampsia being the end point of hypertensive disorders of pre-eclampsia, a higher number of patients with HELLP syndrome would be detected. But perhaps the aetiology and pathogenesis of the two conditions is different hence they do not occur in the same patient.

Zubari et al[6] has reported an incidence of 0.4% of HELLP syndrome in their study of all cases of pre-eclampsia and Eclampsia.

A great vigilance is required in the management of cases of pre-eclampsia and Eclampsia and clinical signs to elicit right hypochondrial tenderness should alert the clinician of the possibility of occurrence of HELLP syndrome. In cases where there are no signs suggestive of HELLP syndrome, haemoglobin, platelet count and AST must be checked along with a coagulation profile. A high index of suspicious will detect the cases, which may be asymptomatic initially, and prompt treatment may prevent worsening of the patient's condition. The consensus of opinion is that all these cases can only be treated by termination of pregnancy by the quickest route. However, delivery plan has to be tailored according to the needs of an individual cases and liberal amount of fresh blood should be avail able at the time of delivery. It has also been observed that steroids treatment does bring improvement if

liver function tests and elevation of platelet count in severe cases [7].

References:

1. Qureshi N S, A Practical guide to the Labour Ward Management, 2000, 195-196
2. Douglas KA, Redman CWG, Eclampsia in the United Kingdom, British Medical Journal, 1994, 309, 1395-1400
3. Syed S, Shah N, Eclampsia and Magnesium Sulphate, Pakistan Medical Association, 2000,15
4. Qureshi NS, Kauser R, Seasonal trends in the occurrence of Eclampsia, annals of King Edward Medical College, Lahore, 1999,Vol: 5,213-214
5. Sibai BM, Taslimi MM, El-Nazar A, Maternal Perinatal outcome associated with the syndrome of haemolysis, elevated liver enzymes and low platelet count in severe pre-eclampsia/Eclampsia, American Journal of Obstetrics and gynecology, 1986,155:501-508
6. Zuberi NF, Arif K, Khan FM, Pal JA, A comparison of severe pre-eclampsia/eclapsia in patients with and without HELLP syndrome, Journal of Pakistan Medical Association, 1998,48:2,29-32
7. Sapier CJ, Repke JT, Hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome: a review of diagnosis and management, American Journal of Obstetrics and gynecology, 1998,22(2), 118-123