

Study of Placenta in HELLP Syndrome Patient: A Case Report

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Abstract:

HELLP syndrome is a multi systemic disorder that complicates pregnancy and has a poor prognosis. HELLP syndrome is frequently associated with severe pre-eclampsia or eclampsia but can also be diagnosed in the absence of these disorders. We report a case of 20 year old married pregnant female who was diagnosed as a patient of HELLP syndrome.

Key Words: HELLP syndrome, pre-eclampsia, placenta, Tenny parker change.

Introduction:

The acronym 'HELLP' was first coined by Weinstein in 1982. He described it as a syndrome consisting of hemolysis, elevated liver enzymes & low platelet count. It is a multisystemic disorder that complicates pregnancy and has poor prognosis. Its incidence is reported to be 0.5-0.9 % of all pregnancies, and in 10-20% of women with severe pre-eclampsia (Haram et al, 2009). HELLP usually occurs in Caucasian women over the age of 25 years (Padden, 1999). Some experts consider it as a variant of pre eclampsia but others believe that pre-eclampsia & HELLP syndrome are separate disorder with overlapping features.

Case Report:

A 20 years old married women presented to the Department of Obstetrics and Gynecology, Subharti Medical College, Meerut with history of amenorrhea for 9 months and pain in the right upper abdominal quadrant. Her obstetrical history was G₁ with 40 week pregnancy. Her blood pressure at the time of admission was 140/90 mm/Hg. Her laboratory reports revealed elevated liver enzymes and low platelets count. Total Serum Billirubin - 9.2 mg/dl; SGOT (AST)-800IU/L; SGPT (ALT)-424; Alkaline Phosphate-336 and Platelet Count-30,000/mm³. She delivered a live newborn weighing 3 kg and Apgar score of 7/10 at 1 minute.

After delivery the placenta of the patient was taken for gross and histopathological examination and fixed for 24 hours in 10 % formaline solution. On

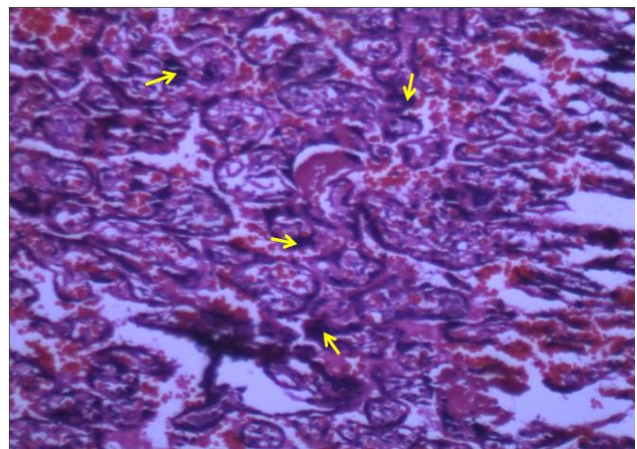


Fig. I: Photomicrograph of placenta showing matured chorionic villi and tenny parker change (H&E, 100X).

examination, the shape of the placenta was discoid with thickness of 2.56 cm in the centre. Weight of the placenta after trimming the membranes and cord was about 700 gm, number of maternal cotyledons were 16. Meconium covered major part of placenta; Hematomas were also seen over it. Umbilical cord was eccentric in position and was inserted about 4 cm from the margin.

All the macroscopically detected focal changes in the placenta were sampled; histopathological examination revealed: Matured Chorionic Villi, Tenny parker change (Fig.I), Decidual arteriopathy, Thickening of vessel wall with fibrin deposits (Fig. II), Occlusion of vessel lumen by cellular thrombi & recanalization (Fig. III).

Discussion:

Generally the HELLP syndrome is considered a placenta instigated, liver targeted acute inflammatory condition with elements of disordered immunological processes. Like severe pre-eclampsia, it results from

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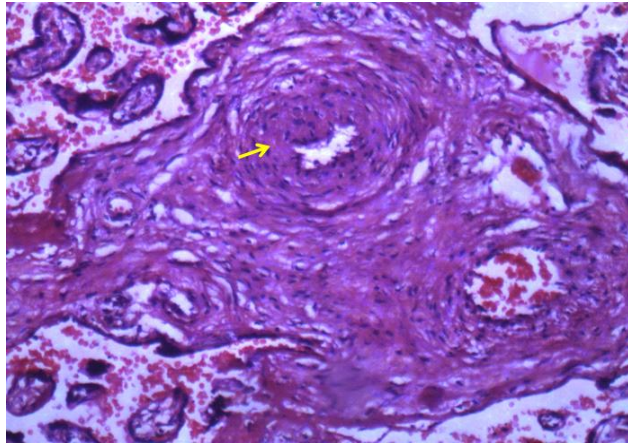


Fig. II: Photomicrograph of placenta showing thickened vessel walls with fibrin deposits (H&E, 400X).

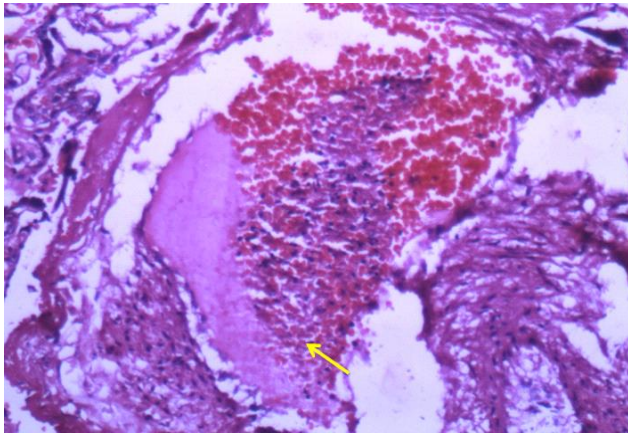


Fig.III: Photomicrograph of placenta showing thrombus and recanalisation in lumen of vessel (H&E, 100X).

the aberrant development, function and ischaemia of the placenta. Ischaemia of the placenta in turn triggers the release of factors that injure the endothelium via the loss of normal pregnancy vascular relaxation, release of vasoconstrictors and activation of platelets. Thus begins a cascade that is terminated only after delivery (Satpathy et al, 2009).

Histopathologic changes of the placenta in the present case, were in accordance with the results of study conducted by Vinnars et al (2008) to evaluate the histopathology in placenta from patients with severe pre-eclampsia with and without HELLP syndrome. There was significantly higher mean placental weight in HELLP syndrome group. Their histopathology showed evidence of accelerated villous maturation and decidual arteriopathy (Vinnars et al, 2008).

Tenny parker change is described as a presence of small size villi with increased syncytial knots. Syncytial knotting occurs as a part of normal villous maturation, but syncytial knots on more than 30% villi are indicative of perfusional compromise

(Gersell & Kraus, 2002).

Decidual arteriopathy is defined as fibrinoid necroses of artery wall, often with dilation of the vessels, with or without the presence of acute atherosclerosis or lumen thrombosis.

Smulian et al (2004) while examining placental lesions and birth weight in severe Pre-eclampsia and HELLP patients found no difference in weight and histopathology.

Raval et al (1997) investigating the maternal and neonatal outcome in severe PE and HELLP, did not found difference in birth weight.

Gul et al (2005) reported no differences in the percentage of intrauterine growth restriction between Pre-eclampsia and HELLP but reported a higher incidence of foetal mortality in HELLP patient.

Conclusion:

The prognosis of pregnancies complicated by HELLP syndrome depends on early diagnosis and early therapeutic approach. Patients with HELLP syndrome have a higher incidence of pre-eclampsia (43%) in subsequent pregnancies (Isler et al, 2003). After delivery, if the placenta is examined minutely it provides much insight into the prenatal health of the baby and mother. Special precautions can be instituted during antenatal period and labour in subsequent pregnancies to reduce further risk to the mother and foetus.

Bibliography:

1. Gersell DJ, Kraus FT: Disease of the Placenta. In: Blaustein's Pathology of the female Genital tract. R J Kurman (Ed.); 5th Edn. Springer, New Delhi, 2002;pp. 1147-1150.
2. Gul A, Cebeci A, Aslan H, Polat I, ozdemir A, Ceylan Y: Perinatal outcomes in severe preeclampsia eclampsia with and without HELLP syndrome. *Gynecology and Obstetrics investigation*, 2005;59(2):113-118.
3. Haram K, Svendsen E, Abildgaard U: The HELLP syndrome: clinical issues & management. A review. *B.M.C. Pregnancy Childbirth*, 2009;9:8-23.
4. Isler CM, Rinehart BK, Terrone DA, May WL, Magann EF, Martin JN (Jr.): The importance of party to major maternal morbidity in the eclamptic mother with HELLP syndrome. *Hypertension Pregnancy*, 2003;22(3):287-294.
5. Padden MO: HELLP syndrome: recognition and present management. *American Family Physician*, 1999; 60(3): 829-36, 839.
6. Raval DS, Cos, Reid MA, Pildes R: Maternal and neonatal outcome of pregnancies complicated with maternal HELLP syndrome. *Journal of Perinatology*, 1997;

- 17(4): 266 - 269.
7. Satpathy HK, Satpathy C, Donal F: HELLP syndrome. *The Journal of Obstetrics and Gynecology of India*, 2009;59(1):30-40.
 8. Smulian J: Shen-Schwaz S, Scorza W, kinzler W, Vintzileos: A clinohistopathologic comparison between HELLP syndromes. *The Journal of Maternal-fetal & Neonatal Medicine*, 2004;16(5):287-293.
 9. Vinnars MT, Wijnacndts LC, Westgrn M, Balte AC, Papadogiannakis N, Nasieli J: Severe pre-eclampsia with and without HELLP differ with regard to placental pathology. *Hypertension*, 2008;51(5):1295-1299.
 10. Weinstein L: Syndrome of hemolysis, elevated liver enzymes and low platelet count: A severe consequence of hypertension in pregnancy. *American Journal of Obstetrics & Gynecology*, 1982;142(2):159-167.
 11. Zhang J, Meikle S, Trumble A: Severe maternal morbidity associated with Hypertensive disorders in pregnancy in the United States. *Hypertension Pregnancy*, 2003;22(2):203-212.

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