

HELLP Syndrome, the Importance of Doppler Intervention

Dritan Shpati

Obstetrics and Gynecology University Hospital “Mbretëresha Geraldinë” Tirana
Albania

Kleva Shpati

Prof. Assoc. , Pharmacy, Tirana Albania

Abstract

WHO has classified Preeclampsia a cause of maternal mortality and morbidity worldwide as Preeclampsia is remaining one of 5 pregnancy diseases cause morbidity and mortality as well in Albania [2]. The neurological complications of preeclampsia and eclampsia are responsible for a major proportion of the morbidity and mortality for women and their infants alike. HELLP syndrome are a group of disorders related to endothelial damage triggered by pregnancy. Hormonal changes during pregnancy and the puerperium carry an increased risk of venous thromboembolism including cerebral venous sinus thrombosis (CVST). I have reported a patient with CVST at 37th week of pregnancy and was diagnosed as HELLP syndrome at 34th week of pregnancy and the case through intensive care at Obstetrics and Gynecology University Hospital “Mbretëresha Geraldinë” in Tirana through a very well control protocol of treatment with a successfully determination.

Keywords: syndrome, HELLP, importance, doppler, intervention

Introduction

WHO has classified preeclampsia a cause of maternal mortality and morbidity worldwide [1]. Preeclampsia is remaining one of 5 pregnancy diseases cause morbidity and mortality as well in Albania [2]. The neurological complications of preeclampsia and eclampsia are responsible for a major proportion of the morbidity and mortality for women and their infants alike. Hormonal changes during pregnancy and the puerperium carry an increased risk of venous thromboembolism including Cerebral Venous Sinus Thrombosis (CVST). The pregnancy-related syndromes of preeclampsia, eclampsia, and HELLP syndrome are a group of disorders related to

endothelial damage triggered by pregnancy. Preeclampsia is defined as gestational hypertension (blood pressure \pm 140/90 mmHg) with proteinuria $>$ 0.3 g/24 hours. It is seen in about 3–8% of all pregnancies [3]. Cerebral venous sinus thrombosis is a frequently unrecognized cause of stroke affecting predominantly young women. Its typical clinical signs include headache, visual problems, and seizures. I have report a patient with CVST at 36th week of pregnancy and was diagnosed as HELLP syndrome at 36th week of pregnancy.

Case Presentation

A 29-year-old woman, gravida 2 was admitted to Obstetrics and Gynecology University Hospital “Mbretështa Geraldinë” at 36th week of gestation with headache and blurred vision. On ophthalmological examination was done and there was bilateral papilledema and visual field loss was detected. At 34th week of gestation, she was hospitalized for high blood pressure, headache, nausea, and vomiting. The blood pressure was 220/140 mmHg and laboratory findings were as follows: aspartate transaminase (AST): 227 U/L, alanine transaminase (ALT): 221 U/L, INR: 1.7, white blood cell (WBC): 13.100 U/L, hemoglobin (Hb): 14.7 gr/dL, thrombocyte count (PLT): 164000 U/L, and 3+ proteinuria in the urine analysis. Hematological and urinary parameters were consistent with severe preeclampsia. It was recommended a magnetic resonance imaging of the brain revealed CVST was diagnosed as HELLP syndrome at 36th week of pregnancy. An anticoagulant treatment with enoxaparin sodium 0.6 mL has started immediately. Hematological investigations showed thrombophilia She underwent cesarean section at 37th week of gestation due to severe preeclampsia. By cesarean section, a baby weighing 1280 g with 1 minute APGAR 9 and 5 minute 10 APGAR scores was delivered. The patient had no significant bleeding during and after cesarean section, but atony-related postpartum hemorrhage developed at 12th postoperative hour. Laboratory investigations showed WBC: 21000 U/L, Hb: 7 gr/dL, PLT: 59000 U/L, AST: 1347 U/L, and ALT: 681 U/L. Due to postpartum hemorrhage, uterine massage was performed and uterotonic drugs were administered. The patient received 8 units of whole blood. At 10th postoperative day, she was discharged from the intensive care unit and monitoring continued in the clinic. Laboratory tests and blood pressure returned to normal at 10th postoperative day. Headache and blurred vision did not improve and bilateral papilledema still existed. The patient was started paracetamol and enoxaparin sodium. A CT venogram showed canalized sinus thrombosis. She was discharged and followed up for one month.

Discussion

Pregnancy is a hypercoagulable state. The tendency to thrombosis, has been developed rapidly and has been linked to many aspects of pregnancy. The combination of combined oral contraceptive and thrombophilia greatly increases the risk of CVST. [4]. In our case, there was a history of oral contraceptive used. Recurrent miscarriage has been associated with thrombophilia and pregnancy complications such as severe preeclampsia, intrauterine growth retardation, abruptio placentae, and stillbirth may be associated with thrombophilia [5,6]. My patient had a history of contraceptive uses, no preeclampsia and sinus thrombosis. Thrombophilia are inherited or acquired conditions which predispose an individual to thromboembolism. Deficiencies of protein S, protein C, and antithrombin are rare and each of them is found in about 3% of patients with thrombosis. Heterozygosity for the FVL mutation is found in about 5% of the population and the mutation is responsible for 20–30% of venous thromboembolic events [7,8]. Due to the rapid evaluation the heterozygous factor V H1299R mutation was not identified.

The main clinical manifestations of CVST include papilledema (62%), headache (62%), hemiparesis (48%), seizures (31%), and cranial nerve palsy (7%). Patients are managed with heparin (Enoxaparin 0,6) followed by warfarin for 6 months. Death due to CVST has shown remarkable reduction because of early diagnosis and appropriate anticoagulation [9].

Patients with CVST may develop—as well as sometimes present with—chronic intracranial hypertension with headache and papilledema. The priority is prevention of visual function loss; intracranial hypertension should be controlled with acetazolamide and occasionally with repeated lumbar punctures if vision is still threatened. Refractory cases may need a cerebrospinal fluid shunting procedure . My patient is improving with medical treatment but this measure should be in consider for the future. Thrombophilia and CVST are rarely encountered conditions during pregnancy and augment the risk of life-threatening maternal complications and adverse perinatal outcomes in preeclamptic patients [10]. Therefore, the etiology of thrombophilia should be investigated in a timely manner. Further signs of increased intracranial pressure should be monitored closely.

References

- [1] WHO recommendations on antiplatelet agents for the prevention of pre-eclampsia <https://www.who.int/publications-detail-redirect/9789240037540>
- [2] WHO recommendation on calcium supplementation before pregnancy for the prevention of pre-eclampsia and its complications
- [3] <https://www.who.int/publications-detail-redirect/9789240008793>

- [4] WHO Preclampsia. M. A. Sloan and B. J. Stern, "Cerebrovascular disease in pregnancy," *Current Treatment Options in Neurology*, vol. 5, no. 5, pp. 391–407, 2003.
- [5] M. Saadatnia and M. Tajmirriahi, "Hormonal contraceptives as a risk factor for cerebral venous and sinus thrombosis," *Acta Neurologica Scandinavica*, vol. 115, no. 5, pp. 295–300, 2007.
- [6] M. J. Kupferminc, "Thrombophilia and pregnancy," *Reproductive Biology and Endocrinology*, vol. 1, article 111, 2003.
- [7] Martinelli, E. Sacchi, G. Landi, E. Taioli, F. Duca, and P. M. Mannucci, "High risk of cerebral-vein thrombosis in carriers of a prothrombin-gene mutation and in users of oral contraceptives," *The New England Journal of Medicine*, vol. 338, no. 25, pp. 1793–1797, 1998.
- [8] Gerhardt, R. E. Scharf, M. W. Beckmann et al., "Prothrombin and factor V mutations in women with a history of thrombosis during pregnancy and the puerperium," *The New England Journal of Medicine*, vol. 342, no. 6, pp. 374–380, 2000.
- [9] L. V. Baxi, "Hereditary thrombophilia in cerebral venous thrombosis: a study from India," *Blood Coagulation and Fibrinolysis*, vol. 25, no. 1, article 92, 2014.
- [10] J. M. Coutinho, S. Middeldorp, and J. Stam, "Advances in the treatment of cerebral venous thrombosis," *Current Treatment Options in Neurology*, vol. 16, no. 7, article 299, 2014.
- [11] H. E. Soydinc, A. Ozler, M. S. Evsen et al., "A case of cerebral sinus venous thrombosis resulting in mortality in severe preeclamptic pregnant woman," *Case Reports in Obstetrics and Gynecology*, vol. 2013, Article ID 402601, 3 pages, 2013.