

Spinal Anaesthesia in Hellp Syndrome – A Case Report

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ABSTRACT

Introduction: Preeclampsia is one of the complications of pregnancy associated with additional morbidity and occasional mortality. One of the complications of such hypertensive disorder is HELLP syndrome. This is an acronym for Hemolysis, elevated liver enzymes and low platelet count. Usually, anaesthetic management is a challenge with low platelet and bleeding episodes.

Case report: A 28-year-old second gravida with 34 weeks gestation with gestational Diabetes Mellitus (GDM), hypertension, hypothyroidism, with a BMI of 35.2 presented to the hospital with chief complaints of epigastric pain for 1 day. Patient has a past history of abortion a year back due to severe pregnancy induced hypertension. Patient was having confirmed diagnosis of HELLP syndrome. With a high Body Mass Index (BMI), difficult airway, we transfused adequate platelets and improved the platelet count to around 1 lakh from 60000 to administer uneventful spinal anaesthesia. The postoperative period was uneventful.

Conclusion: We conclude that spinal anaesthesia is an anaesthetic option for patients with HELLP syndrome undergoing caesarean section in select situations. We present this case report for its rarity.

Keywords: Anaesthesia, Spinal, Pre-Eclampsia, Thrombocytopenia

INTRODUCTION

Preeclampsia is one of the well-known complications of pregnancy associated with added morbidity and occasional mortality. One of the complications of such hypertensive disorder is HELLP syndrome. This is an acronym for Hemolysis, Elevated Liver enzymes and Low Platelet count. The major issues in such cases are uncontrolled hypertension with coagulation problems.¹ Anesthetic management of such cases are always a big challenge to the attending anaesthesiologists. Coagulation problems make patients unsuitable for regional anaesthesia and the obesity, oedema, especially airway oedema makes access to airway a nightmare.² In this context, we report a successful management of such a case with preoperative platelet transfusion and administering a neuraxial block to avoid General anaesthesia and its risks.

CASE REPORT

A 28-year-old second gravida, @ 33+4 weeks of gestation with GDM, hypertension, hypothyroidism, with a BMI of 35.2 presented to us with epigastric pain for one day. There were no complaints of bleeding/leaking PV, burning micturition, headache, blurring of vision or vomiting. She was a diagnosed case of hypothyroidism and was on

50mcg OD of levo thyroxine tablet, later diagnosed to have gestational diabetes mellitus at 23 weeks. She was started on both metformin and insulin after which insulin was slowly tapered and stopped. Oral Metformin was continued with dietary modifications. In her third trimester she was diagnosed with gestational hypertension and was started on Tab.Labetalol 100mg BD. Patient had a past history of induced abortion a year ago as a consequence of severe pregnancy induced hypertension. On arrival, patient was conscious, afebrile, well oriented with a blood pressure of 150/110 mmHg. The general and systemic examinations were normal except for a pedal oedema. The investigations revealed leucocytosis (15,100 cells/microlitre), thrombocytopenia (80,000 cells/microlitre) with significant albuminuria and haemoglobinuria. There was a minimal increase in liver enzymes with a normal coagulation profile. The patient was started on Inj.Magnesium sulphate according to Pritchard's regimen. Four units of platelets were transfused in view of thrombocytopenia and an emergency repeat platelet count was one lakh. In view of patient progressing from preeclampsia to HELLP syndrome, patient was taken up for emergency caesarean section. A peripheral line and an external jugular vein were cannulated for management. After noting stable baseline vitals, a subarachnoid block was administered in a single atraumatic attempt and 2.0 ml of 0.5% hyperbaric Bupivacaine was the drug used. A Spinal level of T4 was achieved and the surgical procedure was uneventful with a male baby weighing 1.58 kg delivered. The baby was intubated, managed and had a normal recovery in five days. The total output was 700 ml with an acceptable blood loss of 500ml and a urine output of 200ml. The urine continued to be thinly blood tinged, cleared after one day. One litre of Ringers lactate and 4 units platelets were administered intra operatively. The maintenance of a platelet count more than one lakh was the target of platelet infusion. Pritchard's regimen was completed. The post-operative investigations

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were normal. The patient was discharged on the sixth day.

DISCUSSION

HELLP syndrome is a complication of hypertensive disorders of pregnancy. characterized by haemolytic anaemia, elevated liver enzymes and reduced platelet circulation. The HELLP syndrome is a life-threatening complication in pregnancy occurring in 0.5 to 0.9% of all pregnancies and in 10-20% of cases coming with severe preeclampsia. Such patients come with severe hypertension and low platelets and hence anaesthetic management is always challenging. Severe oedema with airway risks always coexists with such disorders.³In our case, the patient was obese, oedematous with a difficult airway. Our patient had received magnesium which potentiates the action of muscle relaxants. This assumes significance in the background of controlled general anaesthesia. Hupuczi, P et⁴ al have described the techniques of managing such cases with special emphasis on General anaesthesia. Regional anaesthesia in sick patients especially spinal anaesthesia in HELLP syndrome is reported rarely in a few case reports. The risk of post-operative spinal hematoma was considered a threat.⁵ In our patient, we followed up the case and there was no neurological deficit. The postoperative follow up of platelets were normal. In our patient, there was normal coagulation profile. This was taken advantageously to administer neuraxial block. Intravascular haemolysis and haemoglobinuria were evident prior to spinal anaesthesia in our case. Obesity, oedema, difficult airway along with normal coagulation profile made us think of neuraxial techniques. Graded epidural techniques have been described for hemodynamic stability but we preferred intrathecal to establish definite anaesthesia with adequate relaxation so that a preterm baby can be comfortably taken out.⁶ The blood pressure in the intraoperative period was stable with spinal anaesthesia as she needed only 6 mg one dose of ephedrine. Any intraoperative surgical problem, if happened could have produced some negative outcome to us. As there was no major blood loss we corrected with crystalloids and platelets only. Even in premier institutions, accessibility to video endoscopes may not be available round the clock. A video endoscope guided intubation, monitored targeted muscle relaxants and a plan for a short duration post-operative ventilation could have been more evidence based. The continued management of hypertension with labetalol and magnesium^{7,8} with well monitored clinical and laboratory parameters were the keys to our success.

CONCLUSION

We conclude, with a normal coagulation profile and a corrected platelet number, regional anaesthesia with subarachnoid block for emergency caesarean is feasible in patients with HELLP syndrome.

REFERENCES

1. Del-Rio-Vellosillo M, Garcia-Medina JJ. Anesthetic considerations in HELLP syndrome. *Acta Anaesthesiol Scand.* 2016;60:144-57.
2. Haram K, Svendsen E, Abildgaard U. The HELLP

syndrome: clinical issues and management. A Review. *BMC Pregnancy Childbirth.* 2009;9:8.

3. Kirkpatrick. C. A. The hellp syndrome, *Acta Clinica Belgica* 2010;65:91-97.
4. Hupuczi P.; Rigo B.; Szabo G. Anaesthetic management of HELLP syndrome (haemolysis, elevated liver enzymes, low platelets), *European Journal of Anaesthesiology*: 2006;23:p 181
5. Koyama S, Tomimatsu T, Kanagawa T, Sawada K, Tsutsui T, Kimura T, Chang YS, Wasada K, Imai S, Murata Y. Spinal subarachnoid hematoma following spinal anaesthesia in a patient with HELLP syndrome. *Int J Obstet Anesth* 2010; 19: 87–91.
6. Mishra G, Nagella AB, Parthasarathy S, Vivek B. Segmental epidural anaesthesia for cesarean section in a parturient with uncorrected Taussig-Bing anomaly with transposition of the great arteries physiology. *Anesth Essays Res.* 2015; 9:408-10.
7. Parthasarathy S, Hemanth Kumar V R, Sripriya R, Ravishankar M. Anesthetic management of a patient presenting with eclampsia. *Anesth Essays Res* 2013;7:307-12
8. Webster K, Fishburn S, Maresh M, Findlay SC, Chappell LC; Guideline Committee. Diagnosis and management of hypertension in pregnancy: summary of updated NICE guidance. *BMJ.* 2019;366:15119.

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