

# Anaesthesia for Caesarean Section of Primigravida with Idiopathic Thrombocytopenic Purpura

MALINI MEHTA<sup>1</sup>, D CHANDINI<sup>2</sup>, JIGISHA MEHTA<sup>3</sup>, TEJASH SHARMA<sup>4</sup>

## ABSTRACT

Idiopathic Thrombocytopenic Purpura (ITP) is a rare auto-immune disorder that causes low platelet levels. In this condition, platelets are prematurely destroyed by reticuloendothelial system. Here, authors report a case of 27-year-old primigravida of 38 weeks pregnancy with history of ITP was posted for elective caesarean section. Her platelet count was 25000/mm<sup>3</sup> which increased to 78000/mm<sup>3</sup>, after treatment with 30 gm Intravenous (IV). immunoglobulin for three days and three units of pooled platelet suspension. Thereafter, caesarean section was conducted under general anaesthesia without any complication. Regional anaesthesia is a relative contraindication in obstetric patients with thrombocytopenia. To avoid the complications of neuraxial blockade, general anaesthesia was preferred and is safer in a patient with ITP during pregnancy with low platelet count.

**Keywords:** Auto-immune disorder, Immunoglobulin, Platelet

## CASE REPORT

A 27-year-old primigravida of 38 weeks gestation weighing 56 kg with a history of ITP was admitted to the hospital. She had a history of easy bruising, especially on her extremities that would resolve within days or a couple of weeks. She had no significant family history.

On examination, her vitals were stable, no abnormalities were detected in the systemic examination. The platelet count was 25000/mm<sup>3</sup>. Other than that, all investigations were within normal limit. Haematology consultation was requested and thus Immunoglobulin 30 mg was given IV daily for the next three days. The patient also received 3 units of pooled platelet suspension. After treatment the platelet count raised to 78000/mm<sup>3</sup>.

The obstetrician scheduled the patient for caesarean section. Anticipated difficulty parameters were ruled out and preoperative airway assessment was normal. Patient was kept nil per oral overnight. Written informed consent of American Society of Anaesthesiologists-III (ASA-III) was obtained and after shifting the patient into the operation theatre, vital parameters were monitored, heart rate was 68 beats/minute, blood pressure was noted to be 124/72 mm Hg, SpO<sub>2</sub> 99% and Electrocardiogram (ECG) had normal pattern. Ringer lactate solution was started IV after securing the vein with number 18 G vein flow. Premedication was given in the form of Injection (Inj.) glycopyrrolate 0.2 mg IV as it has anti-sialagogue and vagolytic effect, inj. ondansetron 4 mg IV and Inj. ranitidine 50 mg IV. After giving 100% oxygen for three minutes, patient was anaesthetised with rapid sequence induction with 1% propofol 100 mg IV and endotracheal intubation was facilitated with oral 7.5 mm internal diameter cuffed tube after 100mg inj. succinylcholine IV anaesthesia was maintained with 50% O<sub>2</sub>, 50% N<sub>2</sub>O and 1-2% sevoflurane dial concentration. After the delivery of baby 100 µg inj. fentanyl was given IV and 0.2 mg inj. methergin IV followed by 20 IU inj. oxytocin in 500 mL 0.9% DNS solution slowly. Haemodynamic parameters remained stable throughout the surgery. She received 1000 mL RL and 500 mL 0.9% Dextrose Normal Saline (DNS). Her urine output was 100 mL. Blood loss was about 1000 mL. After surgery neuromuscular blockade was reversed with Inj. glycopyrrolate 0.4 mg IV and inj. neostigmine 2.5 mg IV and extubated smoothly.

## DISCUSSION

The ITP is frequently seen in pregnant women. Gestational

thrombocytopenia accounts for 75% of pregnancy associated thrombocytopenia [1]. It is usually observed during second and third month of pregnancy and returns to normal range within 12 weeks of postpartum period. The normal development of newborn is not affected and also haematological complications are not observed in newborns of affected mother having ITP. It is usually in mild form and not much risk of increased bleeding [2]. When platelet count goes below 20000/mm<sup>3</sup> in pregnant women with ITP, petechiae haemorrhage can be seen. These patients are at increased risk to develop complications due to anaesthesia and require urgent management [1,3]. There is a risk of bleeding during the peripartum period as about 15% of pregnant women have a platelet count lower than 50000/mm<sup>3</sup> at the time of delivery and they require careful attention.

In 75% of patients the platelet count increases after treatment with immunoglobulin and the increase may last up to three to six weeks. In this patient, platelet count increased to 78,000/mm<sup>3</sup> from 25,000/mm<sup>3</sup> after Immunoglobulin treatment and platelet transfusion [1,4].

Thrombocytopenia constitutes a relative contraindication to regional anaesthesia in obstetrics. The major concern is the risk of neuraxial haematoma secondary to bleeding in patient with decreased platelet levels. However, the chances of neuraxial haematoma with epidural are higher than with spinal anaesthetic technique [5,6].

For considering neuraxial blockade in a pregnant woman with ITP, atleast >80,000/mm<sup>3</sup> platelet count was recommended by British Committee for Standards in Haematology [7] and American College of Obstetricians and Gynecologists (ACOG) Committee [8]. However, most anaesthesiologist used spinal anaesthesia in pregnant woman with ITP, with platelet count >50,000/mm without any symptom [1,9].

To avoid the complications of neuraxial blockade, general anaesthesia was preferred in this patient. As use of laryngoscope may cause bleeding, care should be taken to prevent trauma to upper airway during endotracheal intubation while administering general anaesthesia in patients with low platelet counts. There was no traumatic injury in this patient during intubation as well as extubation.

## CONCLUSION(S)

Keeping in mind the risk and benefit of the neuraxial anaesthesia, particularly spinal anaesthesia can be considered in pregnant

patient with ITP. But, general anaesthesia is safer in a patient with ITP during pregnancy with low platelet count.

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### PARTICULARS OF CONTRIBUTORS:

1. Professor, Department of Anaesthesiology, Smt. BK Shah Medical Institute and Research Centre, Vadodara, Gujarat, India.
2. Third Year PG Resident, Department of Anaesthesiology, Smt. BK Shah Medical Institute and Research Centre, Vadodara, Gujarat, India.
3. Assistant Professor, Department of Anaesthesiology, Smt. BK Shah Medical Institute and Research Centre, Vadodara, Gujarat, India.
4. Associate Professor, Department of Anaesthesiology, Smt. BK Shah Medical Institute and Research Centre, Vadodara, Gujarat, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Malini Mehta,  
A1/17, Shreeji Villa 1, Opp. Siddharth Nagar, Sayajipura, Vadodara, Gujarat, India.  
E-mail: malini17091952@gmail.com

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