

## Anaesthetic management of a parturient with severe idiopathic thrombocytopenia and neonatal thrombocytopenia posted for elective caesarean section

Sir,

Idiopathic thrombocytopenic purpura (ITP) is an auto-immune disorder and occurs in 1–2/10,000 pregnancies.<sup>[1]</sup> There are autoantibodies against the platelet membrane glycoproteins. Exacerbation of thrombocytopenia in pregnancy and peripartum haemorrhage has been reported.<sup>[2]</sup> New-borns of affected mothers can have neonatal thrombocytopenia

and intraventricular bleed.<sup>[3]</sup> We present a case of a 24-year-old parturient of 33 weeks gestation with ITP posted for elective caesarean section. She gave a history of haematuria of 1 month and was found to have a platelet count of 10,000/ $\mu$ L. Antiphospholipid antibodies were negative, and she was diagnosed with ITP. She received intravenous immunoglobulin (IVIg) 0.4 g/kg for 5 days, tablet prednisolone 50mg once daily, single donor platelet (SDP) transfusions and was referred to our hospital. Haematology consultation was sought. IV dexamethasone 40 mg once daily for 4 days, a stat dose of subcutaneous romiplostim 5  $\mu$ g/kg and SDP transfusions were given. Gastrointestinal surgery consultation was done to consider splenectomy. As there was no improvement in the platelet count, the decision was made to terminate the pregnancy. She was posted for an elective caesarean section under general anaesthesia.

Oral anti-aspiration prophylaxis was given. Two units of SDP were transfused as the platelet count was 3000/ $\mu$ L. Two wide bore IV cannulae and an arterial line were inserted. After preoxygenation, rapid sequence induction was performed with intravenous thiopentone 300mg and succinylcholine 75mg followed by oral endotracheal intubation. Anaesthesia was maintained with oxygen, nitrous oxide, isoflurane and atracurium. Anticipating the need for splenectomy, a vertical skin incision was made. A 1.9 kg male baby was delivered by caesarean section. IV100 $\mu$ g fentanyl, 2mg midazolam, 10 IU oxytocin and 1gm tranexamic acid were given as an infusion. Blood loss was about 1000mL, hence splenectomy was deferred. The neuromuscular blockade was reversed, and the patient was extubated on the table. Postoperative pain was managed with IV tramadol, and the platelet count was 7000/ $\mu$ L. Tablet prednisolone 50 mg once daily was tapered and stopped after a month. Her platelet count improved to 87,000/ $\mu$ L by the second day and reached 1,56,000/ $\mu$ L by the fourth day. The neonatal platelet count was 4000/ $\mu$ L on day 1, and he received platelet transfusions and 1g m/kg IVIg for 3 days. The counts improved to 70,000/ $\mu$ L, and both the mother and baby were discharged by the seventh day.

Corticosteroids or IVIg are the first-line treatment for maternal ITP.<sup>[4]</sup> Romiplostim promotes the growth of bone marrow megakaryocytes leading to increased platelet production and is indicated when there is a poor response to corticosteroids and immunoglobulins. Romiplostim can cross the placenta with potential teratogenic effects. But it was used on this patient as she was resistant, and available treatment options were limited. Platelet transfusions are used to control life-threatening haemorrhage. Random donor platelet increases the platelet count by 5000/ $\mu$ L, whereas single donor platelet increases the count by 40,000/ $\mu$ L and is preferred. The goals in management are to prevent foetal intracranial haemorrhage and bleeding complications associated with regional anaesthesia. There is no evidence to show that caesarean delivery is safer than vaginal delivery. Hence, caesarean sections are performed only for obstetric indications. Procedures that increase haemorrhagic risks like vacuum and forceps delivery are avoided. For the caesarean section, the platelet count should be at least 50,000/ $\mu$ L, and general anaesthesia is preferred. Regional anaesthesia is contraindicated if the platelet count is below 50,000/ $\mu$ L. Between 50,000 to 70,000/ $\mu$ L, a decision should be made

considering the risks and benefits of regional versus general anaesthesia.<sup>[5]</sup> Real-time monitoring of coagulation status could be performed using a thromboelastogram.<sup>[6]</sup>

During general anaesthesia, intubation should be performed with utmost care as laryngoscopy could cause bleeding. Nasal intubation should be avoided. Studies show that tranexamic acid reduces operative blood loss and was used in this patient.<sup>[7]</sup> Non-steroidal anti-inflammatory drugs and intramuscular injections have to be avoided. Neonatal thrombocytopenia develops as a result of the transplacental transfer of platelet antibodies. The platelet count of newborns usually decreases after delivery with the nadir at the first 2 weeks of life. Hence, neonatal monitoring is required.

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#### Conflicts of interest

There are no conflicts of interest.

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