Epidural management in a parturient with severe immune thrombocytopenia

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Background:

Insertion and removal of epidural catheters in the presence of severe thrombocytopenia runs the risk of developing epidural haematomas. In immune thrombocytopenia (ITP), platelet transfusion may be ineffective due to rapid platelet destruction. This case report presents an obstetric patient with ITP in which an epidural catheter was inserted and its management.

Case Report:

A 38 year old lady in term labour at 38 weeks gestation requested for analgesia. Her antenatal and medical history was uneventful. As her platelet count at her booking visit and at 1.5 months prior did not reveal any thrombocytopenia, she received a lumbar combined spinal-epidural at L3/4 level. The epidural space was located using a loss of resistance to saline technique with an 18 gauge Tuohy needle and the intrathecal space entered with a 27 gauge Whitacre needle. Subsequently, a full blood count showed severe thrombocytopenia (38,000 per microliter) and was confirmed by a repeated test showing a count of 26,000.

The patient's history revealed no episodes of bleeding tendencies. Examination was negative for neurological deficits or bruising at the epidural site. She received epidural analgesia with 0.125% Ropivacaine with Fentanyl 2mcg/ml infusion, with close monitoring of her lower limb neurological status. She had an uneventful vaginal delivery with blood loss of 300 ml.

Haematology review diagnosed ITP and started her on oral Prednisolone 60 mg/day. After delivery, she received a unit of pooled platelets with platelet count rising to 74,000 and a second unit given before catheter removal. 48 hours of close monitoring showed no signs of neurological deficits or epidural haematoma. Outpatient follow-up revealed recovery of platelet counts.

Discussion:

ITP causes autoimmune platelet destruction. Epidural hematoma risk from neuraxial procedure in parturients with platelets $\geq 70,000$ is 0.2% but becomes unclear at lower levels. It is estimated at 3% for 50,000 to 69,000 and 11% for $\leq 49,000$.

Steroid therapy for ITP has slow onset of 5 days. IV immunoglobulin has faster onset of 2 days but is reserved for severe bleeding. Recovery of platelet levels is unpredictable for both.

Platelet transfusion is reserved for severe bleeding as platelet destruction is rapid and rise in platelet count is unpredictable. In this case, transfusion produced a rise in platelets adequate for catheter removal. However, delayed neuraxial bleeding may occur.

Learning points:

Epidural catheter removal in ITP is challenging due to unpredictable and slow effect of therapy on platelet count. Transfused platelets are rapidly destroyed. By monitoring platelet counts after transfusion and vigilance, this case shows the use and removal of an epidural in severe thrombocytopenia from ITP.

References:

- 1) Marti-Carvajal AJ et al. Medical treatments for idiopathic thrombocytopenic purpura during pregnancy. Cochrane Database Syst Rev. 2009 Oct 7; (4):CD007722
- 2) Lee. L. et al. Risk of epidural hematoma after neuraxial techniques in thrombocytopenic parturients: A report from the multicentre perioperative outcomes group. Anesthesiology 2017;126(6):1053-1063