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Perioperative Management of a Parturient with Neuromyelitis Optica

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Devic's disease, or neuromyelitis optica (NMO), is a severe inflammatory demyelinating disorder of the central nervous system that involves recurrent episodes of transverse myelitis and optic neuritis. NMO has traditionally been considered a variant of multiple sclerosis (MS), and management of the two diseases was similar. More recently, a specific IgG antibody against the astrocytic water channel aquaporin-4 (AQP4) has been implicated in the pathogenesis of NMO, and it is considered an entity distinct from MS. We present a case involving the perioperative anesthetic management for cesarean delivery in a patient with NMO.

There is a paucity of literature on the anesthetic management of patients with NMO. To our knowledge, only two case reports describe the obstetric anesthetic management of patients with NMO: the use of an epidural for labor analgesia converted to anesthesia for urgent cesarean delivery (Gunaydin, 2001) and the development of NMO after administration of a spinal anesthetic (Facco, 2009). In a third case, a 53-year-old female who underwent spinal anesthesia for an orthopedic procedure also developed NMO following the procedure.

We report the anesthetic management of a parturient with active Devic's disease who underwent general endotracheal anesthesia for elective cesarean delivery. Our patient initially presented with NMO after a previous delivery with an epidural, and the association of the neuraxial technique with her disease process was uncertain. General anesthesia was chosen to avoid potential exacerbation of her NMO, particularly in light of its timing of onset after a previous neuraxial technique. General anesthesia was provided successfully for cesarean delivery. The patient did exhibit heightened sensitivity to neuromuscular paralysis, requiring a higher dose of cholinesterase inhibitor for blockade reversal and short-term bimodal positive airway pressure assistance upon extubation. She did not exhibit any of the hemodynamic instability that has previously been postulated. Postoperative pain management was approached aggressively because the patient had been taking chronic opioid analgesia for her disease. Close postoperative follow-up was uneventful from an anesthesiology standpoint. The patient had no short-term postoperative exacerbation of NMO; self-limited constipation was evaluated by a neurologist and thought to be consistent with postoperative opioid use and unrelated to NMO. This case highlights the potential challenges of anesthetic management in patients with rare neurological disease.

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