Conus Medullaris Injury following Spinal Anaesthesia

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25-year-old primigravida underwent spinal anaesthesia in the right lateral position for an emergency caesarian section. The injection was given initially at L₂–L₃ site using a 25-gauge spinal needle. Second attempt was made at L₁–L₂ space, since there was no free flow of cerebrospinal fluid and 1.6 mL 0.5% bupivacaine was injected into the subarachnoid space. The Caesarian section was carried out in the supine position and lasted for 45 min. In the immediate post operative period, the patient experienced severe pain, numbness and weakness of her left lower limb. Neurologist was called to evaluate the cause. At that time, she was conscious, oriented, the vitals, general physical and systemic examination were unremarkable. She had severe weakness of the left lower limb with 0/5 power. Left Knee and ankle jerks were absent. Plantars were extensor. There was sensory loss on the left side below L1 segment. Routine investigations were normal. Magnetic resonance imaging (MRI) Sagittal T2 dorsal spine showed cord hyperintensity seen from D11 to L2 level (Figure 1). MRI (Axial T2) spine showed cord hyperintensity seen in D12 level (Figure 2). Diagnosis of spinal anesthesia-related traumatic spinal cord injury was made. She was treated with intravenous methylprednisolone (1 g/day) for 5 days followed by oral steroids. The patient improved gradually and three months later, she was ambulant.

The neurologic deficits following spinal anaesthesia could be due to direct trauma by the needle or spinal cord ischemia due to either hypotension or vasoconstrictors used along with the local anesthetic agents¹,². Severe neurologic complications resulting from spinal anaesthesia are rarely reported³. Our patient developed motor and sensory impairment in left lower limb after spinal anaesthesia with corresponding changes in spinal MRI. The mechanisms responsible for the early onset of neurologic symptoms could be due to direct needle injury of the spinal cord and injection of the local anesthetic into the cord parenchyma, leading to immune-mediated changes and myelitis. The value of high-dose methylprednisolone is unknown but might be considered. Prognosis of these patients is gradual motor recovery over a period of days to months due to the resolution of edema.

This case highlights the rare complication of a standard procedure and helps to reemphasize the recommended checklist before doing the procedure.

References


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Received: 11.01.2016; Accepted: 06.02.2016