

## Upper limb weakness following lumbar disc surgery: An unusual case

Sir,

Now-a-days, lumbar disc surgeries are being performed with very few complications, but some of them may arise in the postoperative period that are rarely anticipated and require brain storming management. Here, we have highlighted such a complication, its diagnosis and management.

A 65-year-old male patient weighing 120 kg came to the hospital with lower back pain radiating to both lower limbs. Magnetic resonance imaging showed cord compression on the lower lumbar vertebrae (L4/L5) level. The patient was posted for transforaminal lumbar interbody fusion. The patient was a known case of hypertension and diabetes, and on regular medications. All laboratory investigations were normal. The patient was premedicated with intravenous

glycopyrrolate 0.2 mg in the operation theater. Routines monitors were attached. General anesthesia was induced with fentanyl 2 mcg/kg, propofol 2 mg/kg and tracheal intubation facilitated with rocuronium 1 mg/kg. The trachea was intubated using a 8.5 mm cuffed flexometalic endotracheal tube. Anesthesia was maintained with sevoflurane in oxygen air mixture (40 : 60) and intermittent boluses of fentanyl and vecuronium as and when required. The patient was turned prone. All the pressure points were checked and the neck was kept in the neutral position. After completion of surgery, the patient was again turned back to the supine position and the trachea was extubated after ascertaining full neurological recovery. The patient was shifted to the post anesthesia care unit for observation. After 2 h, the patient was complaining of tingling in the left hand and weakness during flexion of the left upper limb. On examination, the left upper limb

showed 3/5 power. The patient was completely awake. Vital signs were normal. Arterial blood gases, serum electrolytes and ionized calcium were all within normal limits. In view of brachial plexus injury, stroke, transient ischemic stroke or cervical pathology, the patient was immediately shifted to the radiology suite for magnetic resonance imaging of the brain and cervical spine. Postoperative scan revealed disc protrusion on C5 and C6 level, but there was also minute hyperintensity in the right side of the vertebral artery zone. Tab Ecosporin 75 mg was started orally and methyl prednisolone 30 mg/kg infusion over 1 h was given. The following morning, the patient had improved recovery in his upper limb power.

Analysis of the American Society of Anesthesiologists closed claims database of 1990–1999 revealed that 4183 closed claims were due to anesthesia-related nerve injuries.<sup>[1]</sup> Most of the nerve injuries occur due to faulty positions, hemodynamic fluctuations or related to venous congestion. However, in this case, the pattern of weakness is not showing the trends of brachial plexus injury and more so the prone position was made on Allen's frame and arms were limited to 90 degree abduction. The intraoperative course was smooth. The probable diagnosis in this patient remains between cervical cord compression and stroke, especially lateral medullary syndrome. Postoperative scan revealed compression over the C5 and C6 level due to disc protrusion, which might be present in the preoperative period as well, but remains undiagnosed. Chen *et al.* suggested that loss of muscle support during general anesthesia, excessive neck extension during endotracheal intubation and positioning as well as bucking and agitation during extubation act as triggering factors for the protrusion of the cervical disc.<sup>[2]</sup> As this patient was obese (120 kg), it is possible that due to general anesthesia and prone positioning, there was definite worsening of the compression, which in turn led to such a postoperative complication. There is also a high incidence of concomitant cervical and lumbar spine diseases in patients without

history of trauma.<sup>[3]</sup> On the other hand, in this patient, we could not exclude the possibility of acute stroke that could produce unique flexion weakness of the upper limb. This patient also had a risk for developing stroke due to multiple risk factors, such as age, hypertension, diabetes and obesity. Therefore, taking both the diagnoses, we started ecosporin and methyl prednisone, and the patient improved.

In conclusion, we recommend preoperative cervical imaging in cases of lumbar spine pathology, and one should carry out the complete neurological examination of head to toe in any postoperative case, especially after prone positioning.

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