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A001 Surgical Removal of Peripheral Nerve Schwannoma with Intraoperative Neurophysiological Monitoring

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Introduction: Schwannomas are the most common peripheral nerve tumors arising from neural sheath. They account for less than 8% of soft tissue neoplasms. Surgical excision is the only option when patient presents with complaints, such as paresis, palsy, paresthesia, and pain. Essential goal of surgery will be complete excision of tumor with preserving nerve function. Intraoperative neurophysiological monitoring gives basic, reliable, and real-time information on functionality of explored nerve, which helps the surgical team in microdissection of tumor and complete removal without damaging normal nerve fasciculi.

Methodology/Description: A 48-year-old male patient came to us with complaints of swelling over left arm for 7 years. MRI showed a well-defined ovoid focal lesion measuring approximately 40 × 28 × 26 mm within the intermuscular plane along the distal portion of the left arm, which was closely related to and/or probably arising from the left radial nerve. Standard general anesthesia was given to patient with LMA supreme without relaxation. Anesthesia maintained on O₂ + N₂O + sevoflurane and controlled ventilation. After induction of anesthesia, electrodes were placed over extensor carpi radialis longus, brevis, and extensor digitorum. The tumor was pedunculated and seen to be arising from one of the fascicles of radial nerve. With a bipolar stimulation (0.5–1 ms, 0.7 mA), nerve was traced to the inferior and medial aspect of tumor. Capsule over the tumor dissected all around and tumor excised in toto with preservation of uninjured radial nerve fasciculi. After complete excision, bipolar stimulation (0.5–1 ms, 0.5 mA) was given proximally directly on nerve and EMG activity noted and documented. There were no post-op deficits in left upper limb. On follow-up after a week, patient was completely asymptomatic with grade 5/5

power in left upper limb. Histopathology report confirmed it to be a schwannoma.

Conclusion: Intraoperative neurophysiological monitoring and nerve stimulation is important tool in complete surgical excision of peripheral nerve tumors and preserving nerve function.

Keywords: intraoperative neurophysiological monitoring, peripheral nerve, schwannoma

References

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A002 Utility of Cerebral Oximetry in Diagnosing Delayed Cerebral Ischemia in Aneurysmal Subarachnoid Hemorrhage in the Neuro Intensive Care Unit

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Introduction: Delayed cerebral ischemia (DCI) is the major cause of morbidity and mortality in patients suffering from spontaneous subarachnoid hemorrhage (SAH). An ideal surveillance method would provide early recognition of vasospasm and allow opportunity to initiate proper therapy prior to the development of symptoms. Therefore, we have studied the changes in rSO₂, CBFV, and S_{ijv}O₂ as surveillance techniques in patients prone to develop vasospasm.

Aims and Objectives: To evaluate the utility of cerebral oximetry, jugular venous oxygen saturation, and cerebral blood flow velocity in predicting vasospasm in poor grade SAH patients in the neuro ICU.

Methodology/Description: Prospective, observational; time period: 6 months.