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Is Intraoperative Neuromonitoring Necessary for Intradural Extramedullary Spine Tumours? Results and Indications from a Series of Institutions

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Introduction

Intradural extramedullary spine tumours pose unique challenges for surgical intervention due to their proximity to critical neural structures. Intraoperative Neuromonitoring (IONM) has emerged as a valuable tool to help surgeons navigate these complex procedures and minimize the risk of neurological complications. This article aims to explore the necessity and benefits of IONM in the management of intradural extramedullary spine tumours, drawing insights from a series of institutions' experiences [1]. Intradural extramedullary spine tumours are neoplasms that arise within the spinal canal but outside the spinal cord. Common types include meningiomas, nerve sheath tumours and ependymomas. These tumours can cause compression of neural structures, leading to neurological deficits and functional impairment. Surgical resection is often the treatment of choice, but the proximity to critical neural elements poses a risk of neurological injury. IONM may yield false-positive or false-negative results, leading to challenges in interpretation. Surgeons must consider the limitations of the technique and integrate the information with their clinical judgment [2].

Description

IONM involves real-time monitoring of neurological function during surgery, providing continuous feedback to the surgical team. Various techniques, such as Somatosensory Evoked Potentials (SSEPs), Motor Evoked Potentials (MEPs), and Electromyography (EMG), are employed to assess the integrity of the spinal cord and peripheral nerves. Changes in these parameters can alert the surgeon to potential compromise of neural structures, allowing for prompt intervention and potential prevention of permanent neurological damage [3,4]. Early Detection of Neurological Compromise: IONM enables early detection of changes in neural function, allowing for timely intervention before irreversible damage occurs. This is particularly crucial in surgeries involving intradural extramedullary tumours, where delicate neural structures are at risk. Continued research in IONM for intradural extramedullary spine tumour surgeries is crucial. Advancements in technology and data analysis techniques may lead to further refinements in monitoring accuracy and sensitivity. Additionally, prospective studies and multicentre collaborations can provide a larger evidence base to establish standardized guidelines and refine patient selection criteria [5,6].

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Conclusion

Intraoperative neuromonitoring plays a significant role in the surgical management of intradural extramedullary spine tumours. The real-time feedback provided by IONM enables early detection of neurological compromise and facilitates safe tumour resection, ultimately leading to improved functional outcomes and reduced rates of neurological complications. However, careful patient selection and consideration of the limitations of IONM are essential. As technology advances and more evidence accumulate, IONM is likely to continue evolving as a valuable tool in the surgical approach to intradural extramedullary spine tumours, ensuring optimal patient outcomes and minimizing neurological morbidity. Successful implementation of IONM requires a skilled team of neurophysiologists and appropriate equipment. Institutions considering the adoption of IONM must ensure the availability of trained personnel and the necessary resources.

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Conflict of Interest

None.

References

1. Jellema, K., J. J. Van Overbeeke, H. L. J. M. Teepen and L. H. Visser. "Time to diagnosis of intraspinal tumors." *Eur Neurol* 12 (2005): 621-624.
2. Montano, Nicola, Gianluca Trevisi, Beatrice Cioni and Corrado Lucantoni, et al. "The role of laminoplasty in preventing spinal deformity in adult patients submitted to resection of an intradural spinal tumor. Case series and literature review." *Clin Neurol Neurosurg* 125 (2014): 69-74.
3. Forster, Marie-Therese, Gerhard Marquardt, Volker Seifert and Andrea Szelenyi. "Spinal cord tumor surgery—importance of continuous intraoperative neurophysiological monitoring after tumor resection." Spine 37 (2012): 1001-1008.
4. Ahn, Henry and Michael G. Fehlings. "Prevention, identification, and treatment of perioperative spinal cord injury." *Neurosurgical Focus* 25 (2008): E15.
5. Korn, A., D. Halevi, Z. Lidar and T. Biron, et al."Intraoperative neurophysiological monitoring during resection of intradural extramedullary spinal cord tumors: Experience with 100 cases." *Acta Neurochir* 157 (2015): 819-830.
6. Deletis, Vedran and Francesco Sala. "Intraoperative neurophysiological monitoring of the spinal cord during spinal cord and spine surgery: A review focus on the corticospinal tracts." *Clin Neurophysiol Pract* 119 (2008): 248-264.

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