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Minimally Invasive Approach to Lesions located in Spinal Canal: Tips and tricks

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Introduction: Traditional surgical treatment of spinal cord lesions includes open laminectomy with subsequent resection. We will demonstrate our experience in minimally invasive surgical techniques in a consecutive series of patients undergoing treatment of symptomatic lesions.

Material and methods: 174 patients with spinal lesions in different levels were operated on in two medical centers between 1998 and 2021 and presented with symptoms including pain and neurological deficits. Preoperative localization of spinal lesions was performed using a C-arm X-Ray system. All patients underwent surgical resection using a minimally invasive, unilateral approach under continuous neurophysiological monitoring (SSEP, MEP, and EMG).

Results: In most extra- and intramedullary lesions cases, complete resection of lesions proved on postoperative imaging studies was achieved. There were no complications

associated with surgery. But in some cases, the wrong level opening has happened. In such instances, accurate intraoperative localization was achieved using a 30-degree rigid neurosurgical endoscope. After surgical resection of the lesions, the neurological deficit was entirely resolved in most cases, in 5 cases - remain radicular pain, in 4 patients was seen temporary neurological deterioration, and in 5 others — the neurological deficit was not changed after surgery.

Conclusion: Various spinal lesions can be effectively and safely operated using minimally invasive techniques.

Speaker Biography

Israel Melamed is Chief of Neurosurgery department Soroka University Medical Center and the Faculty of Health Sciences. He has worldwide reputation, saving the lives of infants, young and older people with brain tumors Center.

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