— K.-D. Schaser

Surgical challenges of primary and metastatic tumours of the thoracolumbar spine

Over the last two decades, oncosurgical therapies that target spinal tumours have experienced a paradigm shift from only palliative to more aggressive techniques. There is growing recognition that oncosurgical resection methods combined with navigation-assisted/image-guided excisions and stereotactic cyberknife measures yield better results than radiation alone. Although much progress has been made towards widely disseminating this concept, a consequent adoption of these contemporary strategies for spinal metastatic disease is lacking. In this issue of Argospine News and Journal we outline the surgical treatment of primary/metastatic spinal tumours in order to advance the science of spinal oncology and provide a multidisciplinary perspective on current management of spinal malignancies.

In the first article, entitled "Minimally invasive surgery in the treatment of thoracolumbar metastatic tumours", Laufer et al. (Baltimore, USA) describe the reasonability and indications of minimally invasive techniques for patients with spinal metastatic disease. It is emphasized that surgical palliation, i.e. efficient spinal cord decompression and restoration of spinal stability should be based on a realistic estimation of individual prognosis. Based on the experiences made in other spinal disorders the authors report on the application of minimally invasive concepts for anterior and posterior approaches in spinal tumours.

In a second article, "Navigation-assisted resections with image-guided surgery for primary and metastatic spinal tumours", Schaser et al. (Berlin, Germany) present some instructive clinical results, indicating that -particularly in the non-exposed spine- navigation allows for marked gain in intraoperative orientation and improved realisation of planned resection planes. A number of image-guided resection modes are outlined by emphasizing the recurring problem of tumour-growth-induced deranged spinal anatomy and spatial vicinity of tumour lesions to essential neurovascular structures, profoundly complicating margin-free resections.

In the paper "Multilevel en bloc spondylectomy in malignant tumours of the spine" Liljenqvist (Münster, Germany) reports on his experiences of simultaneous posterior-anterior approaches for resections of malignant spinal tumours with multilevel vertebral involvement. Since this technique differs from classic all posterior approach it is expected to improve control of both the anterior visceral and posterior neural structures, thereby increasing safety of the procedure.

In their review of "Intradural spinal tumours: an overview", Kaech et al. (Chur, Switzerland) outline that in the overwhelming majority of extra- and intramedullary spinal tumours microsurgical resection is the treatment of choice. In addition to illustrative cases exemplifying the concise remarks, the typical MRI-features and microsurgical techniques are equally described and depicted.

In a last paper by Disch et al. (Berlin, Germany) "En bloc spondylectomy for thoracolumbar primary tumours and solitary metastases of the spine", the experiences from different studies on oncologically sufficient resections of primary and metastatic lesions of selected tumours are summarised. The oncological rationales and rare indications for this aggressive type of vertebral en bloc excisions are presented.

Perspective

Technical problems and disillusioning results have hampered development of surgical techniques for the treatment of spinal malignancies in the past. New and ever-evolving concepts continue to defy the typical pessimistic views on the treatment of spinal tumours and metastases. All the articles suggest that there are grounds for renewed optimism and underscore the need for constant development of novel surgical resections and spinal reconstructions in order to meet with the challenges posed by spinal tumours. ●

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