Macnab's hidden zone

The lateral lumbar spinal canal may be subdivided into the subarticular (lateral recess), the foraminal (pedicle) and the extraforaminal (far lateral) zone. Within these regions lies the “Macnab's hidden zone”, an area known for its difficult surgical exposure [1].

In 10% of patients with lumbar disc herniations there is a fragment migrated cranially in the Macnab's “hidden zone”.

Common pathologies of this region include also lumbar foraminal stenosis

Due to the local anatomy, these lesions may affect both the traversing (level below) as well as the exiting (same level) nerve root.

Patients typically present with neurological symptoms of (poly-)radiculopathy, including pain, weakness and numbness. Commonly, and in contrast to the above-mentioned zones, all types of disc herniations that affect the exiting nerve root at the same level are referred to as “far- or extreme-lateral”, including pre-, intra- and extra-foraminal herniations. Whilst a variety of effective techniques for approaching extraforaminal and purely intraforaminal lesions have been developed, there continues to be disagreement with regard to the optimal approach to lesions located in the pre- and intra-foraminal regions of the hidden zone.

In order to understand this discord, it is crucial to comprehend the difficulties and patient-specific concerns associated with the surgical exposure of this region. Anatomically, the medial hidden zone is an area bordered laterally by the pedicle, ventrally by the dorsal part of the vertebral body and covered dorsally by the pars interarticularis of the hemilamina.

Open surgical exploration of this region via the traditional interlaminar route is therefore only possible after at least partial removal of the ipsilateral hemilamina (extended laminotomy or even hemilaminectomy) and may additionally require partial or complete facetectomy (removal of the facet joint) [2].

Extended laminotomy as a means to approach the hidden zone has therefore lost popularity, since the associated removal of biomechanically important bony structures has been suggested to increase the risk of secondary segmental instability [3] and may subsequently necessitate fusion surgery. Other, more lateral approaches have been suggested; however, these require specific anatomical knowledge, and offer inferior access to more medial spinal pathologies of the hidden zone [4].

see Translaminar approach.

1)
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