Lateral pediculectomy

Kwon et al., from the Department of Neurosurgery, Korea University Guro Hospital South Korea introduced in 2018 a technique and results of retro-pleural/ peritoneal "lateral pediculectomy" for the decompression of thoracolumbar fractures and reconstruction using expandable titanium cage, and circumferential fixation at a single stage.

18 patients who had single unstable, burst thoracolumbar fracture were treated by this technique between January 2014 and December 2016 (T12: 9 cases, L1: 7 cases, L2: 2 cases). They were reviewed retrospectively in terms of radiologic (CT scan and X-ray), clinical outcomes and complications. The results were compared with another cohort of thoracolumbar fractures treated by posterior only surgery.

There was no radiologic complications implying pseudoarthrosis or instrument failure on the postoperative 6 months CT scan. There was also no neurologic deterioration or infections during the same period. 2 patients (11.%) of iatrogenic and 1 patient of trauma related injury of the dura were secured without any delayed complications. 3 patients (16.7%) of transient weakness in left hip flexion immediately after operation were observed and recovered within 2 weeks in all cases. 6 patients (33.3%) complained of dysesthesia and/or hypoesthesia on incision site.

The present technique suggests "lateral pediclectomy" as a distinct anatomic landmark and surgical tactics to access and remove bony fragment effectively and safely. This provides a more straightforward assess to the burst fragment and helps the surgeon to make better intra-operative decompression strategies. Moreover, this circumferential instrumentation with anterior support and fusion revealed better restoration of the thoracolumbar spine alignment compared to posterior only surgery, with acceptable complications rates ¹⁾.

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Kwon WK, Park WB, Lee GY, Kim JH, Park YK, Moon HJ. Decompression with "Lateral pediculectomy" and circumferential reconstruction for unstable Thoracolumbar Burst Fractures : Surgical Techniques and Results in 18 Patients. World Neurosurg. 2018 Jul 28. pii: S1878-8750(18)31615-2. doi: 10.1016/j.wneu.2018.07.137. [Epub ahead of print] PubMed PMID: 30064028.

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