

Case Of Degenerative Spondylolisthesis: TLIF / PLIF

Mun-Keong Kwan

Department of Orthopaedic Surgery, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.

Degenerative spondylolisthesis is known spinal entity which occurs during the unstable stage of the degeneration of the lumbar spine. When this condition resulting symptoms, it is usually presented with 1) traversing nerve root symptom due to subarticular compression, 2) exiting nerve root symptom due to foraminal stenosis or 3) chronic back pain.

Conservative treatment is still the mainstay of treatment of choice but once failed, surgical treatment is the only options available. The surgical aims for this condition include 1) neural decompression, 2) solid interbody fusion and 3) correction of sagittal alignment. All these can be easily achieved posteriorly through either TLIF or PLIF.

PLIF is first introduced by Cloward RB in 1943. However, this procedure has been reported to be associated with a higher risk of nerve root injury and dural tear due to the excessive retraction the neural structures during the procedure. TLIF was later introduced by Jurgen Harms in 1993. In TLIF procedure, a unilateral or occasionally a bilateral total facetectomy + laminectomy will be performed. Neural structure decompression was performed and interbody cage will be inserted with minimal neural structures retraction followed by posterior stabilization using pedicle screws system. Suk Se-II et al (1997) has reported that a lower nonunion rate and implant loosening when interbody cage fusion was performed as compared to posterolateral fusion alone for this condition.

TLIF can be performed using the conventional open method or minimally invasive method i.e. MIS-TLIF. Liu Xie et al (2016), has reported a metaanalysis study comparing MIS TLIF versus conventional open technique and concluded that MIS-TLIF resulted in a similar fusion rate with better functional outcome, less blood loss, shorter ambulation, and hospital stay. However it did not increase the complication or reoperation rate based on the existing evidence.