

5<sup>th</sup> World Congress on

# SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

## Minimally Invasive Spinal Surgery with percutaneous stabilization for Lumbosacral Spine Degenerative Diseases: A retrospective database of 40 consecutive treated cases and literature review

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**Literature review.** To report our results about Minimally Invasive Transforaminal Lumbar Interbody Fusion (MI-TLIF) with bilateral pedicle screw fixation, in patients with Degenerative Lumbosacral Spine Disease. To describe the indications, surgical technique and results of a consecutive series of 40 patients undergone MI-TLIF. MI-TLIF with bilateral pedicle screw fixation is an increasing approach to degenerative lumbosacral spine disease. Despite the limited number of clinical studies, published data suggest tremendous potential advantages of this technique. Forty patients with radiological findings of Degenerative Lumbosacral Spine Disease were undergone MI-TLIF between July 2012 and January 2015. Clinical outcomes were assessed employing the Oswestry Disability Index (ODI) and Health Survey Scoring (SF36) before surgery, at first-year follow-up. Furthermore, the following parameters were retrospectively reviewed: age, sex, working activity, body mass index (BMI), type of degenerative disease, number of levels of fusion, operative time, blood loss, length of hospital stay. Average operative time was of 230 minutes, mean estimated blood loss 170 mL, average length of hospital stay 5 days. The ODI improved from a score of 59, preoperatively, to post-operative score of 20 at first-year follow-up. Average SF36 score increased from 36 to 54 (Physical Health) and from 29 to 50 (Mental Health) at first-year outcome evaluation. MI-TLIF with bilateral pedicle screw fixation is an excellent choice for selected patients suffering from symptomatic Degenerative Lumbosacral Spine Disease, especially secondary to recurrent disk herniations.



Figure 1 Representative post-operative 3D CT performed on postoperative day 2

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