



Minimally invasive transforaminal lumbar interbody fusion - indications and clinical experience

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ABSTRACT

BACKGROUND

Transforaminal lumbar interbody fusion (TLIF) has emerged as one of the common procedures performed by spine surgeons. Back pain and radiculopathy due to degenerative disc disease, spondylolisthesis, or deformity are the usual indications. Minimally invasive surgery (MIS) techniques have proven to be effective in TLIF as they are associated with less blood loss, fewer wound complications and infections, faster recovery, and decreased hospital costs. The novel technique described in this study helps to achieve a circumferential lumbar fusion using a unilateral posterior approach, via a muscle-dilating exposure, thereby minimizing the approach-related morbidity.

OBJECTIVES

An overview of the minimally invasive TLIF (MIS-TLIF) procedures including indications, techniques, and clinical experience along with a review of the medical literature is hereby presented.

METHODS

All patients who underwent MIS-TLIF for various indications at our institution from 2009 to 2014 were retrospectively reviewed. All patients in this series had low back pain as their predominant symptom, with varying degrees of radicular pain and neurologic symptoms. The data collected retrospectively for analysis were age, gender, previous diagnoses, revision diagnosis, duration of symptoms, levels of fusion, operating time, intraoperative blood loss, clinical and radiographic results after surgery, and complications. Back and leg pain quantified by visual analog scale scores preoperatively, postoperatively, and at the last follow-up were assessed for clinical outcomes.

CONCLUSIONS

Our clinical experience along with a review of the medical literature indicates that TLIF can be effectively and safely performed in a minimally invasive fashion for a wide variety of indications.

KEYWORDS

Back pain; degenerative disc disease; minimally invasive; radiculopathy; spondylolisthesis; transforaminal lumbar interbody fusion

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