

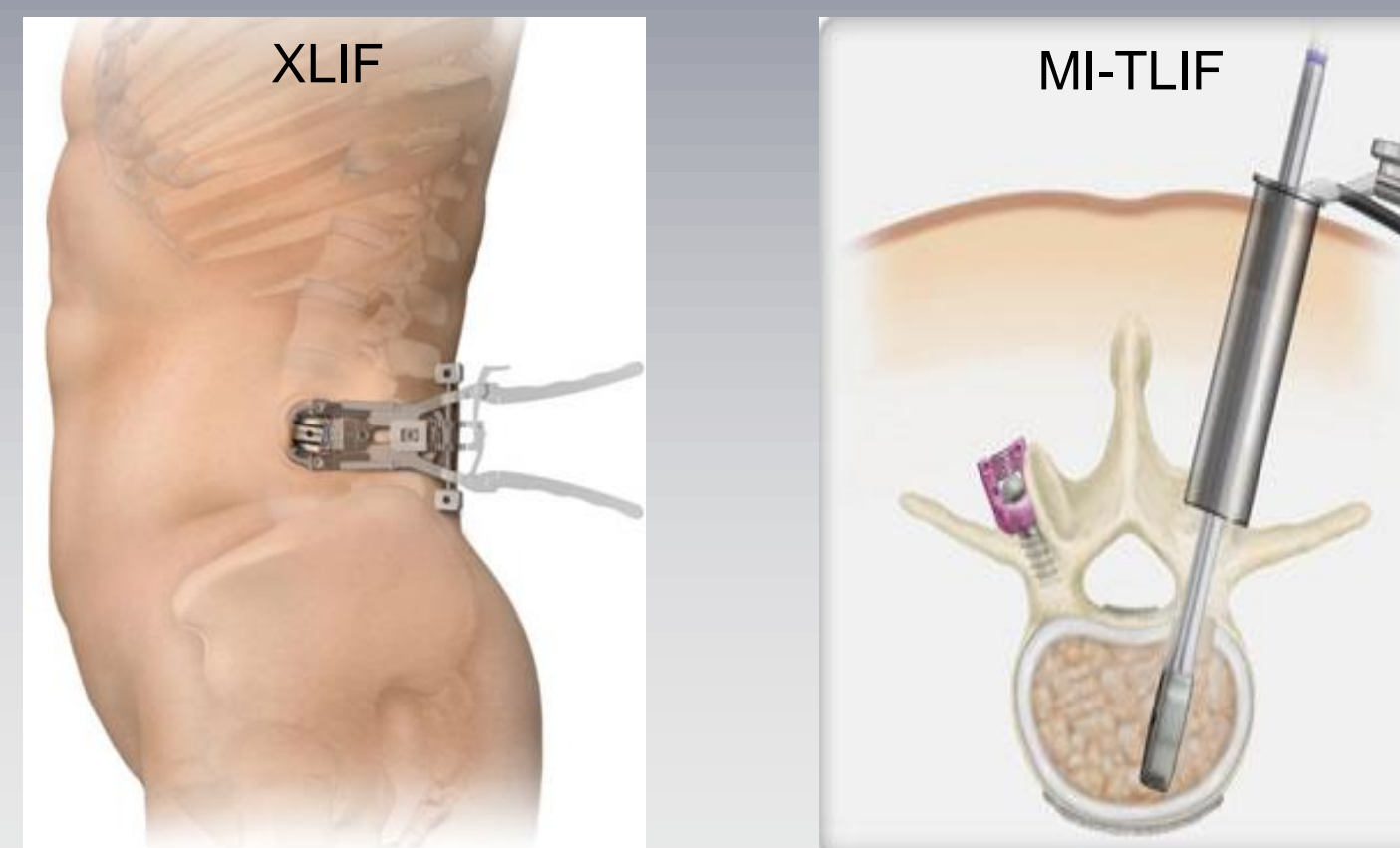
Comparing Long-Term Outcomes Between MI-TLIF and XLIF in the Treatment of Lumbar Spinal Disorders

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Introduction

- A variety of minimally invasive lumbar fusion techniques have arisen over the past several decades.
- There is a lack of literature directly comparing different minimally invasive approaches, as these are typically compared singularly with their open counterparts.
- Purpose: To compare minimally invasive transforaminal lumbar interbody fusion (MI-TLIF) versus extreme lateral interbody fusion (XLIF) in the treatment of degenerative disc disease (DDD) and spinal instability.



Results

- A total of 340 patients were included - 115 in the XLIF cohort and 225 in the MI-TLIF cohort. Mean follow-up for the XLIF and MI-TLIF groups were 46.3 and 39.2 months, respectively.
- The overall revision rates were 7.8% for the XLIF group and 8.0% for the MI-TLIF group, respectively (p= 0.929) (Table 1).
- Average time to revision (TTR) was 376.3 ± 284.3 days and 404.1 ± 240.7 days for the MI-TLIF and XLIF groups (Table 1).
- VAS scores decreased by a mean of 5.6 in the XLIF group and a mean of 2.9 in the MI-TLIF group, a significant difference (p= <0.001) (Table 2).

Methods

- A retrospective review was performed at a single institution to identify all patients during the years 2013-2018 who underwent XLIF or MI-TLIF with a minimum follow-up of 2 years.
- Revision rate, time to revision, and type of complications were recorded and analyzed.
- Functional outcomes were assessed by comparing pre- and post-operative patient reported VAS-back and ODI scores.

Table 1. Comparison of Revisions and Complications

	MI-TLIF	XLIF	p-value
Total Reoperations (%)	18 (8.0)	9 (7.8)	0.929
TTR (days)	376.3	404.1	0.182
ASD	5	5	0.731
Pseudarthrosis	11	4	0.116
Wound Infection	2	-	0.311

ASD= Adjacent Segment Disease; TTR= Time to Revision

Table 2. Functional Outcome Score Improvement

	MI-TLIF	XLIF	p-value
VAS Change	2.9 (0.9)	5.6 (1.3)	<0.001
ODI Change	24.5 (6.9)	26.1 (7.3)	0.201

Conclusions

- MI-TLIF and XLIF are reasonable minimally-invasive alternatives for the treatment of lumbar spinal pathology.
- There were no significant differences in overall revision rates or complications after long-term follow-up; however, XLIF demonstrated superior improvement in VAS scores.
- Both procedures offer advantages of decreased hospital length of stay, decreased blood loss and quicker return to work compared to traditional open techniques.

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