



Chulalongkorn University

Radiographic outcome of MIS lateral and MIS Transforaminal Lumbar Interbody Fusion in the treatment of Degenerative Lumbar Disease : A Single Institute study



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Objective

- Compare radiographic outcomes of MIS TLIF and MIS LLIF
- One to two levels degenerative lumbar disease
- Single Institute

Study design

- Retrospective Single institute cohort study

Methods

- Patients underwent XLIF or MIS TLIF at Chulalongkorn hospital from July 2015 to July 2016

Inclusion criteria

- Age \geq 25 years old
- 1-2 levels degenerative lumbar disease
- Neurologic claudication with or without back pain
- Complete follow up radiograph

Exclusion criteria

- Previous lumbar fusion
- Infection, tumor
- RA
- Drug abuse

Outcomes measurement

Plain film

- Translation
- anterior disc height(ADH)
- posterior disc height(PDH)
- foraminal height(FH)
- Segmental angle
- Lumbar lordosis
- PI, PT, SS

Pre op , immediate PO, 1 mo,
3mo, 6 mo, 12 mo, last F/U

CT

- Fusion

1 year

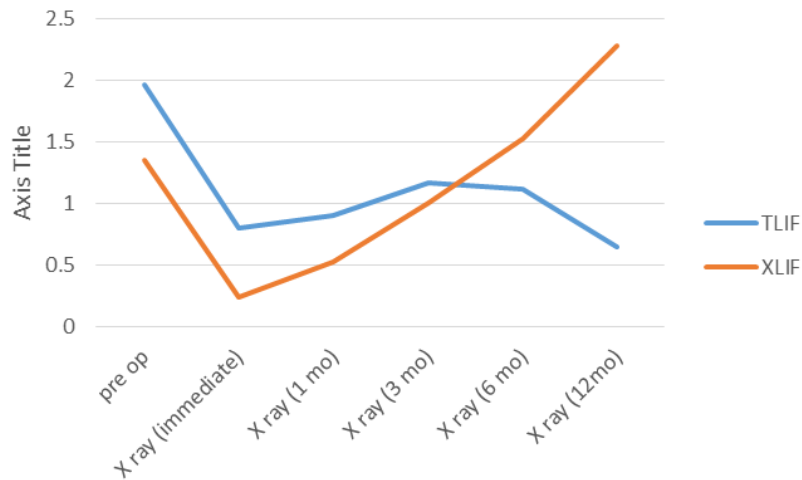
Statistical analysis

- Statistical analysis was performed using SPSS
- Descriptive statistics
 - Mean , SD
- Comparative analyses (XLIF and MIS TLIF).
 - Fisher exact and ANOVA
- Statistical significance was defined at $P < 0.05$.

Results

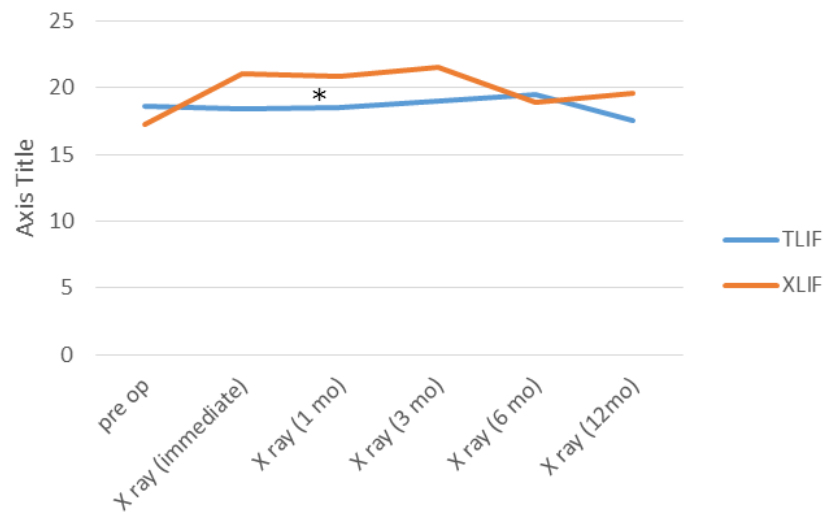
	MIS TLIF	XLIF
Patients	40	32
Mean F/U	3-18 mo	4-16 Mo
Levels	45	40
Most common level	L4-5	L4-5
Mean Age	62	60
Female	56%	58%
Diagnosis (most)	Degen Spondy	Degen Spondy
Implant failure	No	No
Reoperation	No	No

Translation



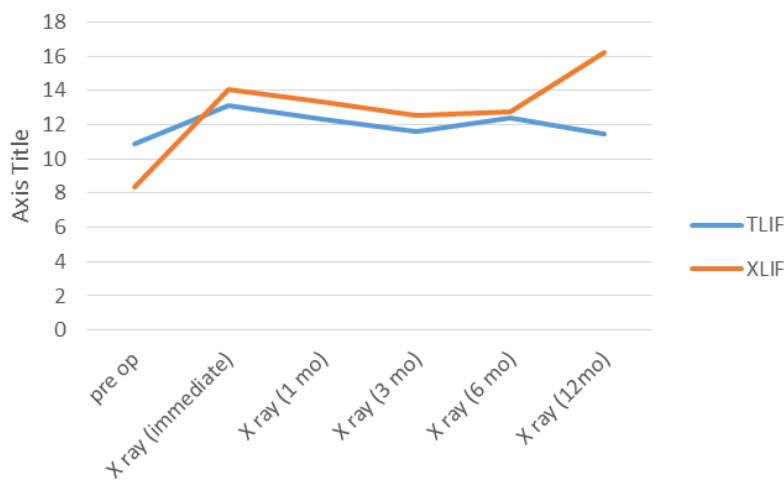
Translation

FH



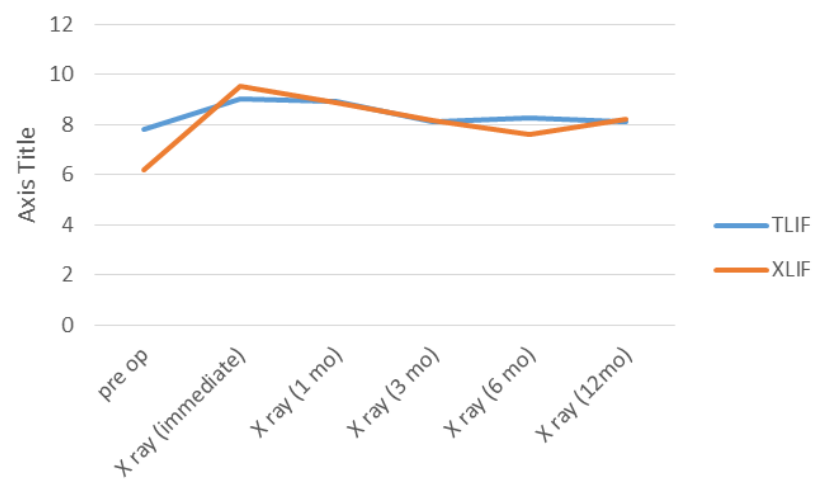
Foraminal height

ADH



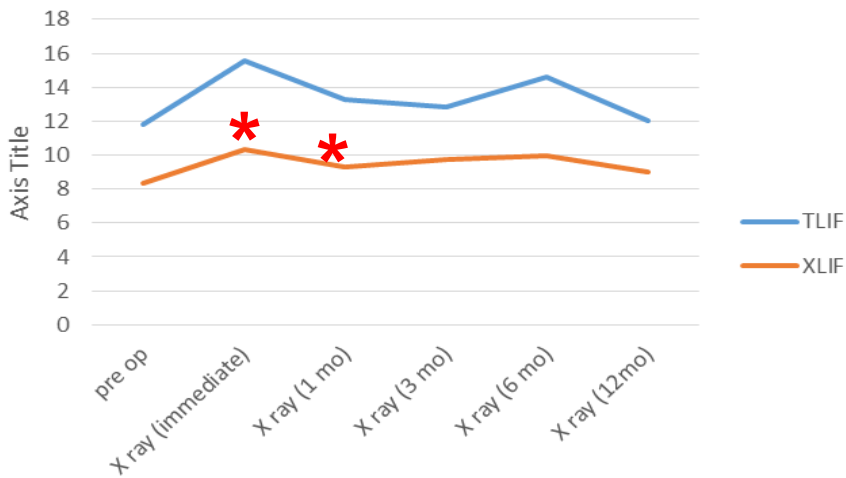
Ant disc height

PDH

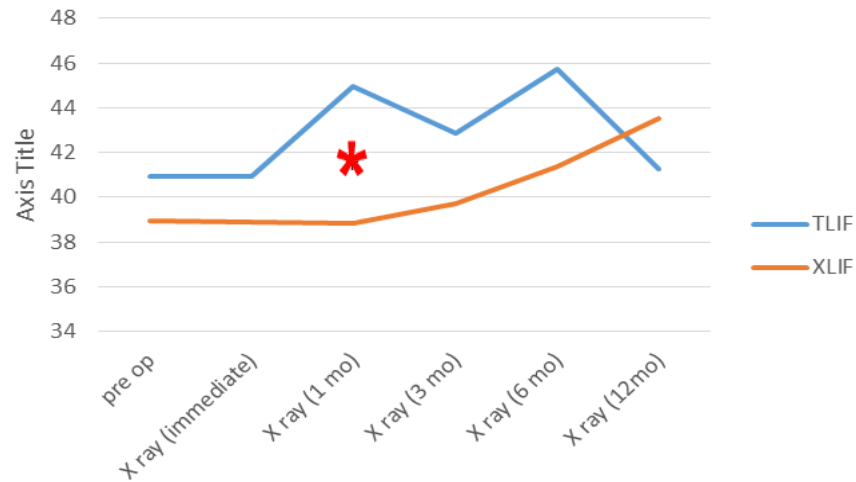


Post disc height

Angle



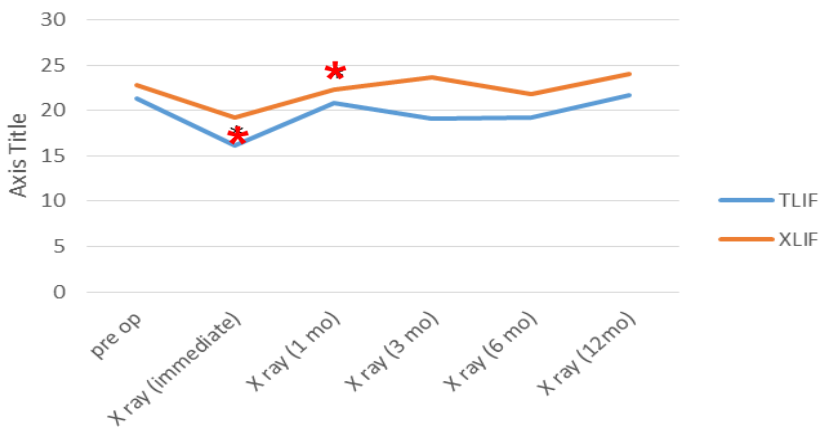
Lordosis



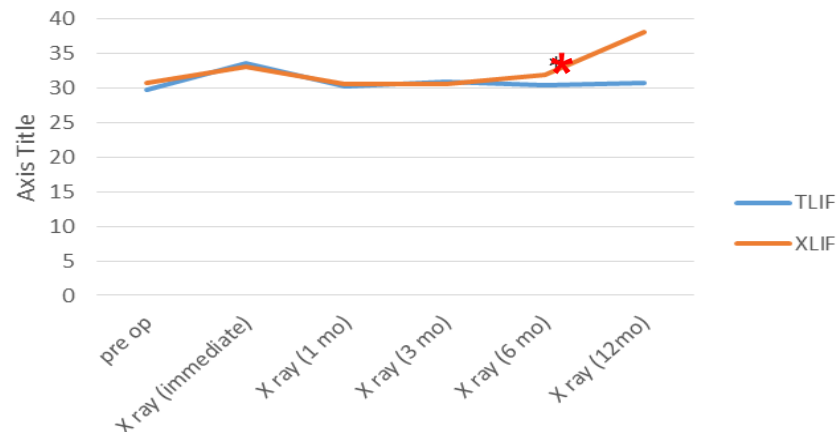
Segmental angle

L1-S1 Lordosis

PT



SS



Pelvic tilt

Sacral slope

Discussion



XLIF : Indirective
decompression



Cage more posterior

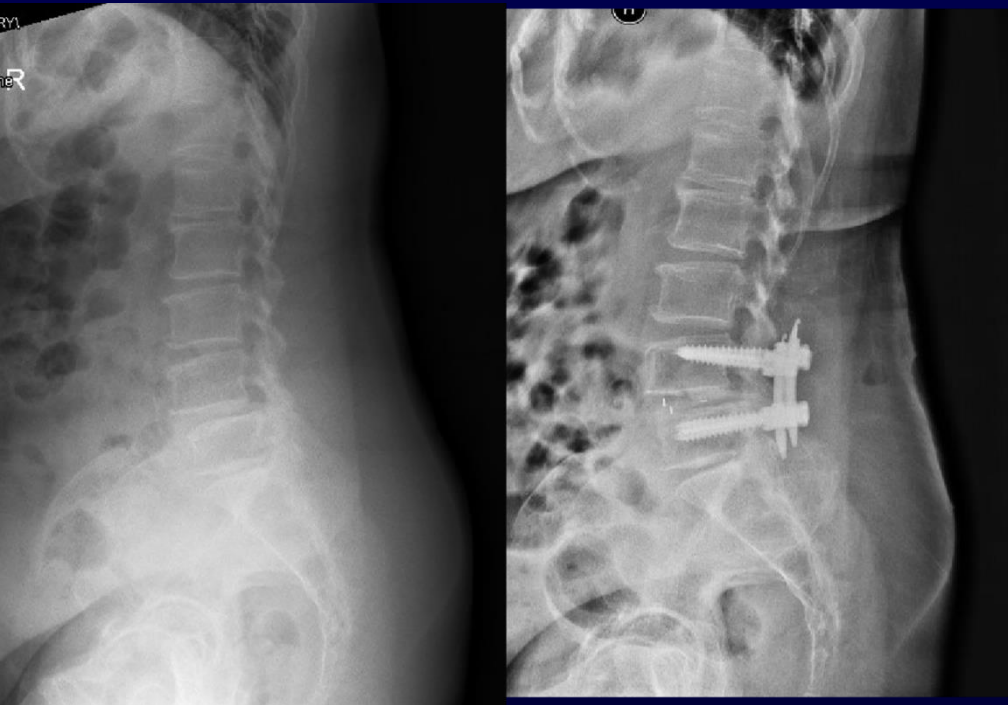


Higher FH

Lower segmental angle

Lower lordosis

Discussion



- **MIS TLIF:** better segmental angle ,LL , PT, SS
 - Anterior position of cage
 - Compress rods

Conclusion

- MIS Interbody fusion can improve both lumbar and spinopelvic parameters.
- **MIS TLIF:** better segmental angle , Lordosis, Spinopelvic parameters
- **XLIF:** Better foraminal height restoration

Disclosure

- All authors have nothing to disclose
- The manuscript submitted does not contain information about medical device(s)/drug(s).
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- No relevant financial activities outside the submitted work.