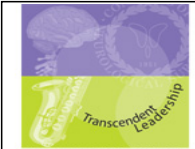


Early Results of Patients Treated with Minimally Invasive Interbody Fusions via a Tlif Approach

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Introduction

The advent of MIS pedicle screw systems has led to an increase in MIS procedures. Refinements in TLIF techniques and device designs are resulting in treatments requiring little or no bone removal, or neural retraction.

Methods

Patients with surgical findings in the lumbar spine completed pre and post-op outcome questionnaires. Group I completed the SF 36, while Group II completed the SF 8. All patients were treated surgically by the senior author. The interbody devices used in group I were implanted through a 22mm cannula. The device used in group II was an expandable mesh and can be implanted through access portals as small as 7mm. Implantation of the interbody device in group II was accomplished without removing any tissue. Working portals retracted soft tissue in both groups. Intraoperative / hospitalization data were collected and evaluated. Paired student t-tests were used to evaluate the differences in outcome data (compared to baseline). Wilcoxon tests were used to evaluate differences in operative data, (compared between groups).

Pre Operative (L5-S1)



48 yo with severe low back and leg pain unresponsive to non-operative care.

Results

36 patients were involved in these prospective case series. Each group reported is a consecutive case series of the first 18 patients treated with the specific technique by the senior author. Outcome data is presented in the following tables. In group I all patients were single level fusions. In group II there were 13-one level implantations, 3-two level implantations and 2-three level implantations.

Outcome Data-Expandable Cage

	VAS	SF-8	Omnentry
Pre Op	8.39	20.16	35.78
1 Mo	3.22*	43.69*	21.67*
	(p<.0001)	(p<.0001)	(p<.00034)

Outcome Data-Peek Cage

	VAS	SF-36	Omnentry
Pre Op	8.7	29.9	35
1 Mo	5.8*(NS)	33.2*(NS)	26.2*(NS)

Post Operative (L5-S1)



Lateral image demonstrating restoration of disc space height and re-alignment of retrolisthesis using MIS techniques.

Conclusions

Interbody fusion can be effectively accomplished using MIS techniques. An expandable mesh device offers the added benefits of a smaller access portal, less bony removal, less neural retraction, fewer complications, lower blood loss, less hospital stay and lower operative time. Patient outcome data in these patients demonstrates better outcomes for the expandable mesh device in the first month post operatively.

Learning Objectives

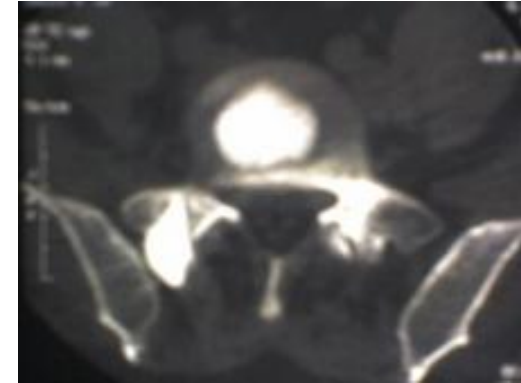
Understand new techniques for accessing and implanting the interbody space in a less invasive manner.
 Understand the early outcomes associated with the new interbody implantation technique.

Post Operative Incision



Healed post operative incision from implantation of expandable mesh device and MIS pedicle screws.

Coronal CT



Coronal CT demonstrating large intimate surface contact area of expandable mesh device.

Coronal CT



Coronal CT demonstrating surface contact area of PEEK TLIF device.

Pre Operative (L5-S1)



48 yo with severe low back and leg pain unresponsive to non-operative care.

[Back To Poster](#)

Outcome Data-Expandable Cage

	VAS	SF-8	Oswestry
Pre Op	8.39	20.16	35.78
1 Mo	3.22* (p<.0001)	43.63* (p<.0001)	21.67* (p<.00034)

[Back To Poster](#)

Outcome Data-Peek Cage

	VAS	SF-36	Oswestry
Pre Op	8.7	29.9	35
1 Mo	5.8* (NS)	33.2* (NS)	26.2* (NS)

[Back To Poster](#)

Post Operative (L5-S1)



Lateral image demonstrating restoration of disc space height and re-alignment of retrolisthesis using MIS techniques.

[Back To Poster](#)

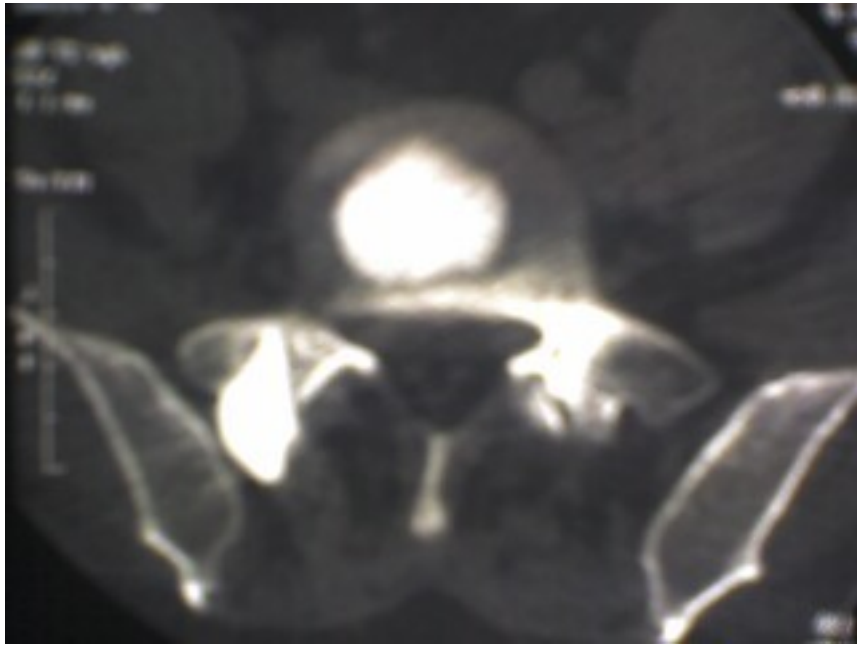
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Healed post operative incision from implantation of expandable mesh device and MIS pedicle screws.

[Back To Poster](#)

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Coronal CT demonstrating large intimate surface contact area of expandable mesh device.
[Back To Poster](#)

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Coronal CT demonstrating surface contact area of PEEK TLIF device.

[Back To Poster](#)