

POST-TREATMENT RESULTS OF LUMBAR SPINAL STENOSIS USING MINIMALLY INVASIVE LUMBAR DECOMPRESSION WITH INTERSPINOUS SPACER

Sri Harsha Kanuri, MD*¹, and Y.S. Mohan, MD²

¹Department of Emergency Medicine & ²Department of Neurosurgery- Garden City Hospital, Garden City, MI



INTRODUCTION

- Lumbar spinal stenosis (LSS) involves narrowing the lumbar spinal canal, impacting neural and vascular space due to degeneration.
- Prevalence of LSS ranges from 1.7% to 8% in the general population, with a peak incidence in the fifth to seventh decade of life.
- Symptomatic LSS, known as neurogenic claudication, induces discomfort in the buttocks, back, thighs, or calves with aching, cramping, and sensory imbalances, often aggravated by standing and relieved by sitting or lumbar flexion.
- Traditional conservative care often fails to provide substantial relief for LSS symptoms, the SPORT study highlights the superiority of surgical care for patients with persistent stenotic symptoms beyond 12 weeks.

OBJECTIVES

The objective is to assess the efficacy of MILD (Minimally Invasive Lumbar Decompression) combined with ISS (Interspinous Spacer) in adults experiencing symptomatic lumbar spinal stenosis (LSS). Primary endpoints encompass quality of life, disability, functional status, and pain. Additionally, the study aims to analyze complications and side effects, as well as evaluate short-term (3 months), intermediate-term (6 months), and long-term (6 to 12 months) outcomes.

MATERIALS & METHODS

Study Design	Prospective Clinical Trial
Study Device	Coflex interspinous spacer
Participants	Patients with symptoms and MRI evidence of lumbar spinal stenosis, minimum of 3-6 months of ineffective conservative treatment at Garden City Hospital.

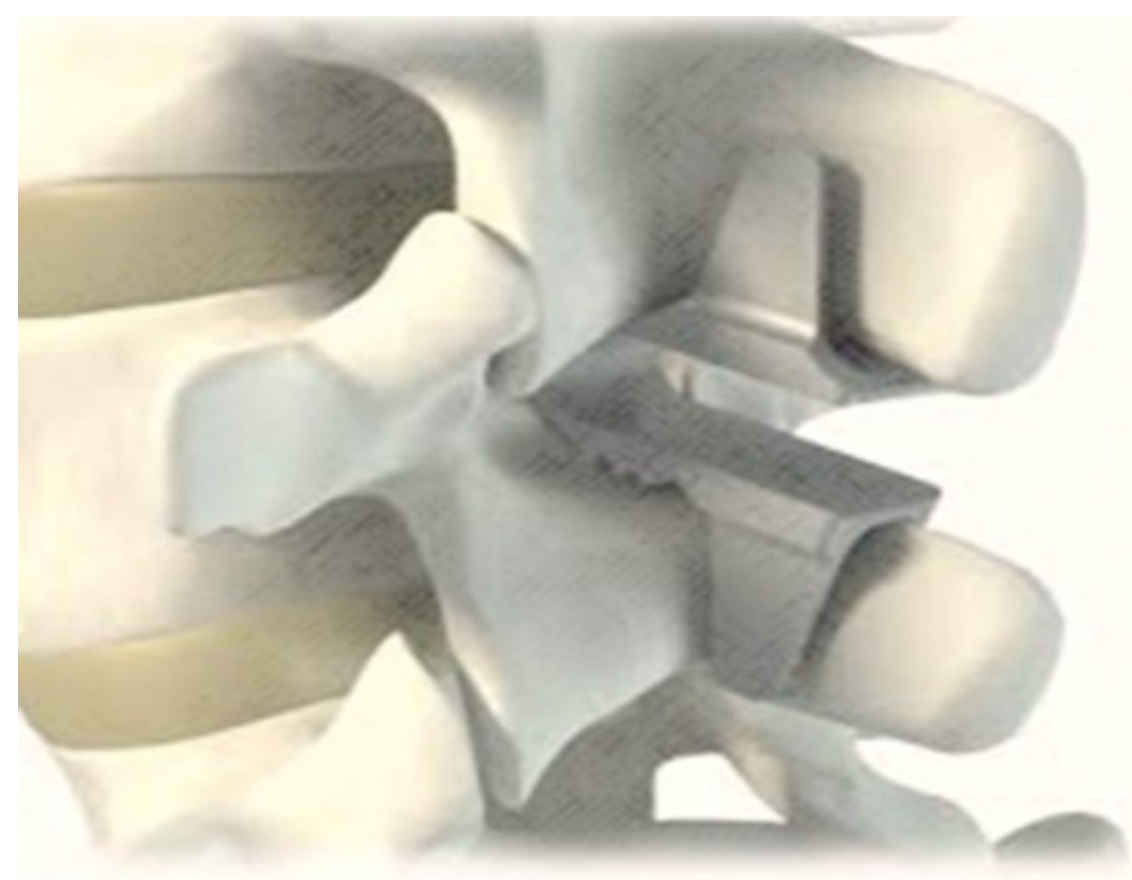
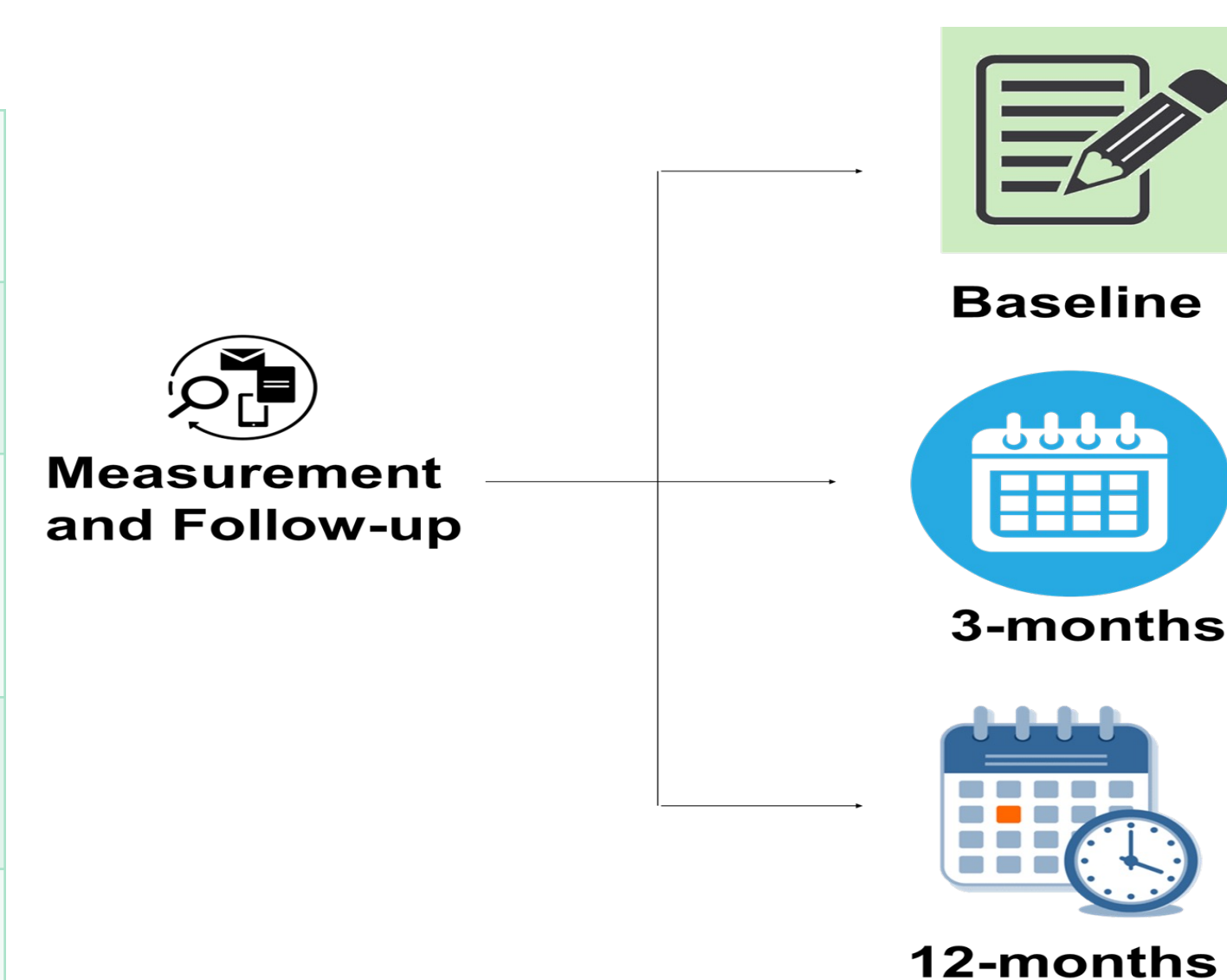


Fig. 1. Coflex Interspinous Spacer Device (Kalichman et al., 2009).

Table no. 1: Baseline characteristics of patients (n=14)

Gender (%)	Females- 64.2% Males- 35.8%
Age (Mean)	58.4 years (n=14)
Baseline ODI & VAS Score	8.78 (n= 14)
Follow-up Duration	1 year (n=14)
Mean Symptom Duration	2 years



RESULTS

- Significant improvement in mean ODI and VAS scores at 3 months, 6 months, and 12 months for both preoperative and postoperative assessments ($p < 0.05$).
- A 7.07-point improvement ($p < 0.05$, $n = 14$) was reported at last follow up (Mean = 365 days) among patients with severe pain at baseline (8 or more).**
- No complications were observed in the group, encompassing implant dislocation, fracture, and infection.

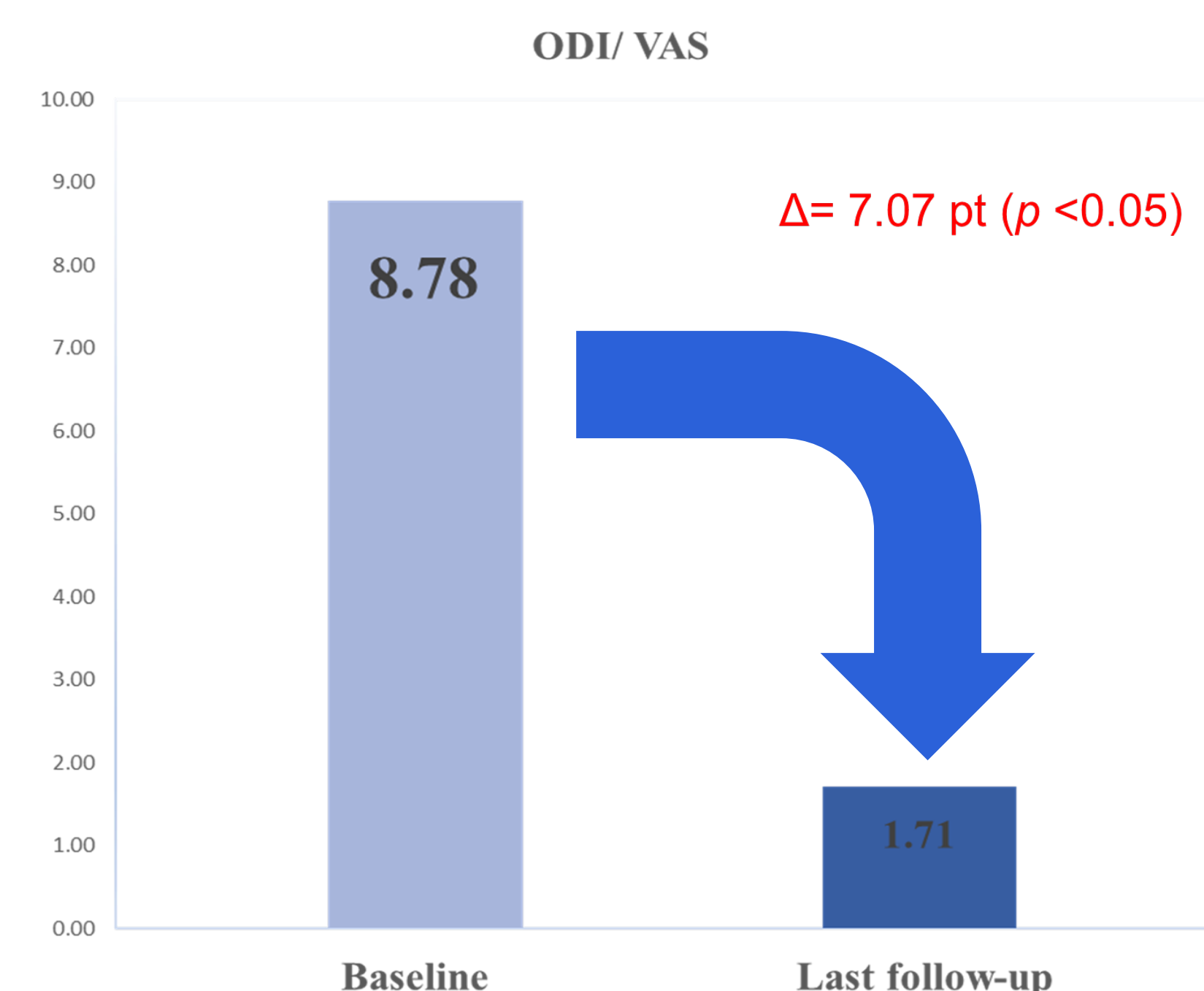


Fig. 2. Comparing the mean ODI and VAS score for baseline and last follow-up.

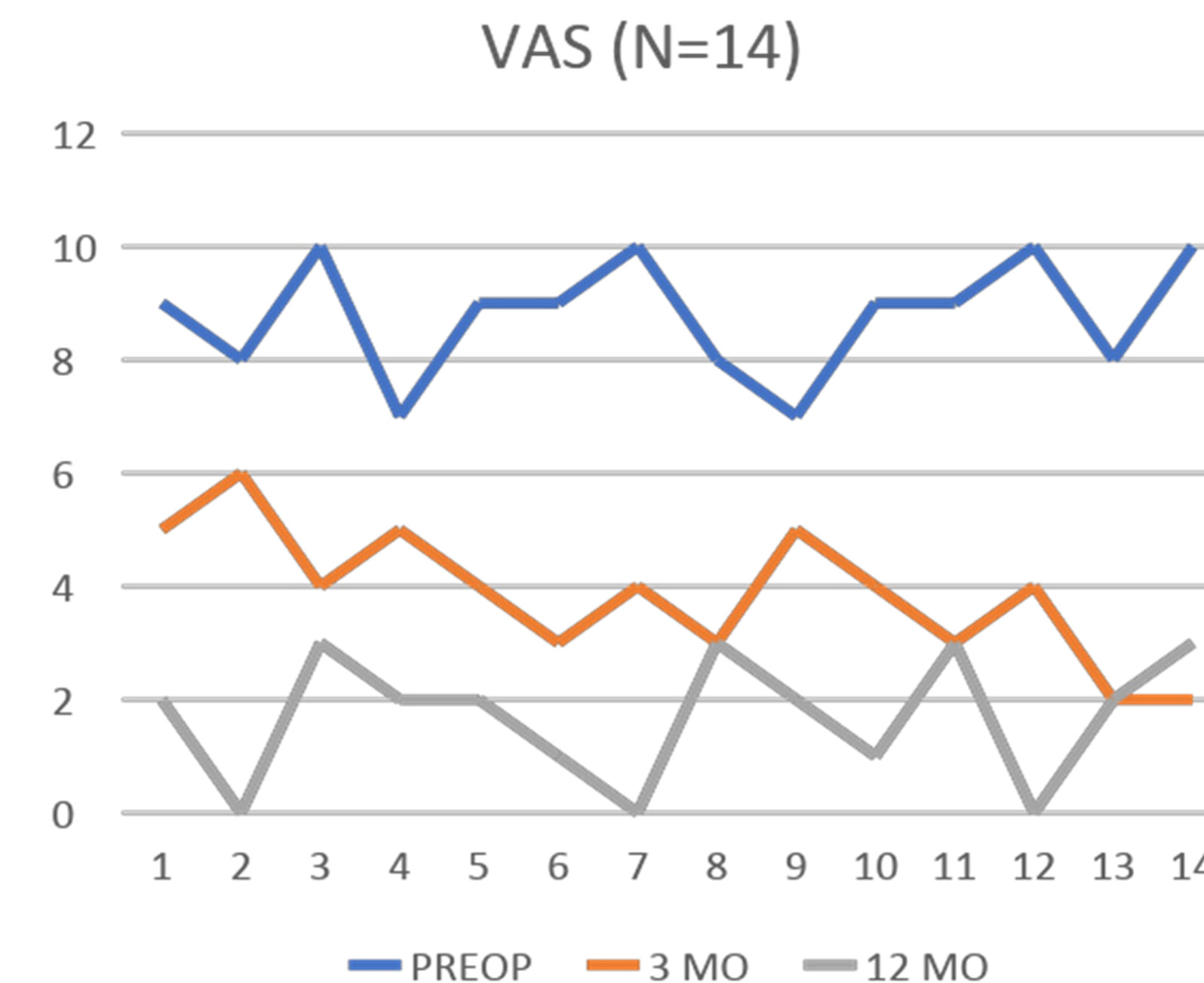
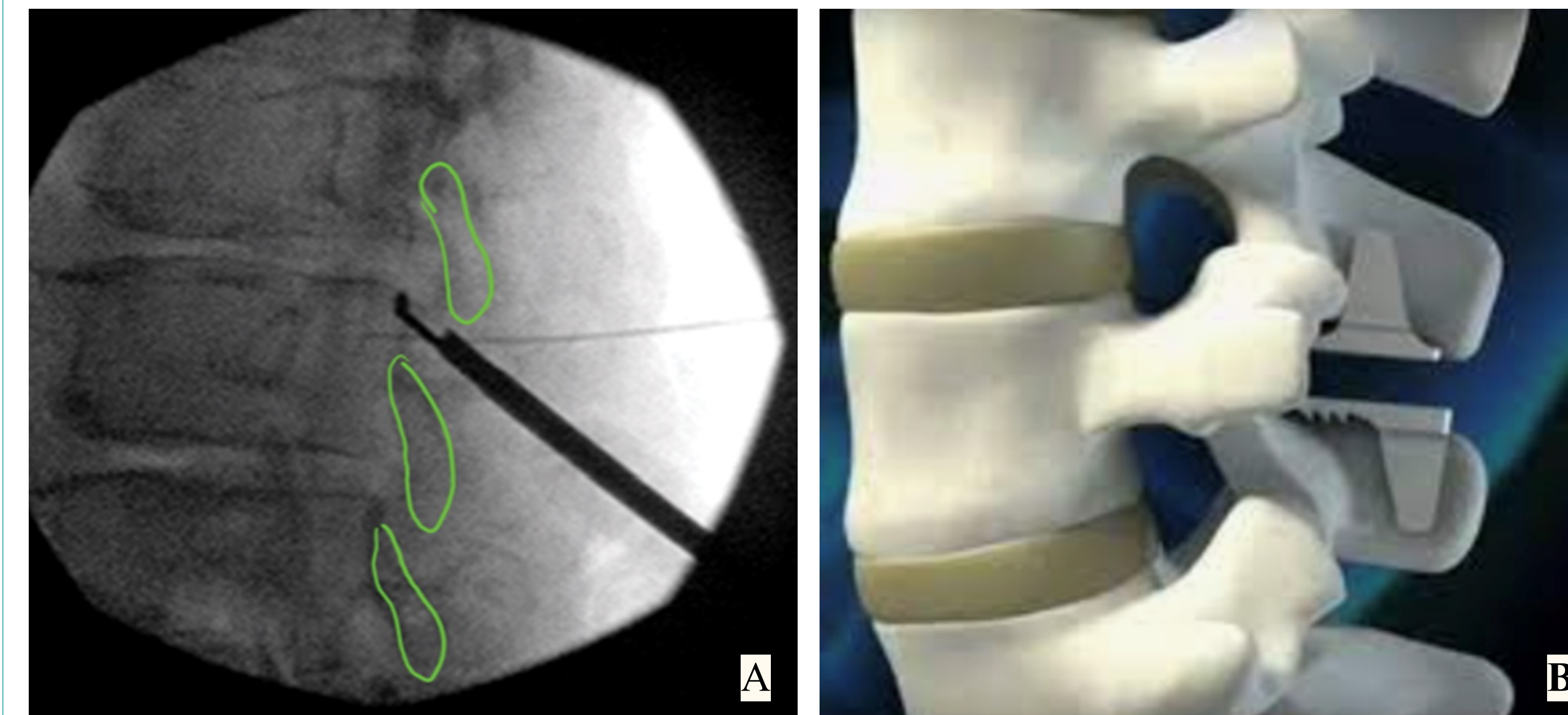


Fig. 3. Comparing preoperative, 3 months and 12 months VAS score (N= 14)

CONCLUSION

- Minimally Invasive Lumbar Decompression with Interspinous Spacer offers a viable alternative to conventional decompression and fusion or standalone interspinous spacers/MILD for treating LSS, yielding improved symptom outcomes and satisfactory long-term efficacy.
- The study's modest case sample, displaying positive outcomes, emphasizes the significance of conducting more extensive multicenter randomized controlled trials to reinforce robust confirmation.

Fig. 4. A: Minimal Invasive Lumbar Decompression (MILD), B: Interspinous Spacer (ISS) (Kalichman et al., 2009).



REFERENCES

- Fraser JF, Huang RC, Girardi FP, Cammisa FP. Pathogenesis, presentation, and treatment of lumbar spinal stenosis associated with coronal or sagittal spinal deformities. Neurosurg Focus [Internet]. 2003 [cited 2023 Aug 14];14(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/15766223/>
- Kalichman, L., Cole, R., Kim, D. H., Li, L., Suri, P., Guermazi, A., & Hunter, D. J. (2009). Adapted from Spinal stenosis prevalence and association with symptoms: the Framingham Study. Spine Journal, 9(7), 545–550. <https://doi.org/10.1016/J.SPINEE.2009.03.005>.