



One Year Outcomes of Minimally-Invasive Presacral Approach and Instrumentation Technique for Anterior Lumbosacral Intervertebral Discectomy and Fusion



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Introduction

Generally, the anterior or posterior approaches are chosen for lumbar interbody fusions. The AxiaLif (Trans1) is a novel technique that uses a paracoccygeal approach to L5-S1 for interbody fusion. In this study, we analyze the one year outcomes for interbody fusion of the lumbar junction using trans-sacral instrumentation.

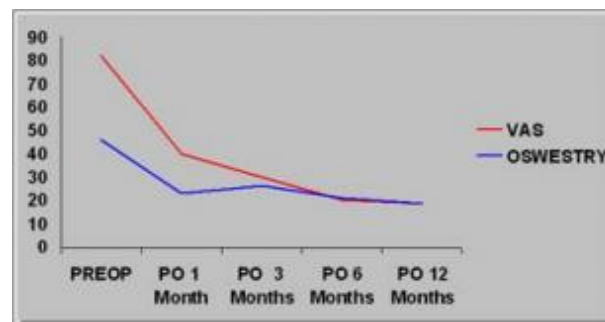
Methods

Using a presacral corridor, percutaneous L5-S1 discectomy, interbody distraction, and fixation are achieved while avoiding the retroperitoneal viscera as well as the dorsal neural elements. Percutaneous pedicle screw fixation is then employed to provide additional stabilization of the treated level. 28 consecutive patients who underwent paracoccygeal trans-sacral interbody fusions were followed-up for 1 year. Preoperative and postoperative Oswestry and VAS scores were compared and radiological results were examined.

Schematic of the Transsacral Rod



ODI and VAS Scores



Results

Operative time averaged 45 minutes, EBL was minimal in all cases, and hospital stay averaged about 24 hours. There was an average 26 point decrease between preoperative and postoperative Oswestry score and a 7 point decrease in VAS scores at one-year follow-up ($P < .001$). The rate of fusion on imaging at one year was 90% (16/16 patients with BMP had radiologic fusion at 1 year). There were no complications noted.

Conclusions

The transsacral approach to the lumbar spine is simple and reproducible. One year results of this percutaneous technique of interbody distraction and fusion show that transsacral interbody fusion may be a good alternative to TLIF and PLIF.

Learning Objectives

1. Describe the transsacral approach to lumbar interbody fusion
2. Appreciate the potential benefits to the transsacral approach
3. Understand that the procedure is an alternative to traditional anterior or posterior interbody fusion with good results at one year follow-up.