

Perioperative Outcomes Associated with Thoracolumbar Three-column Osteotomies for Adult Spinal Deformity Patients with Rheumatoid Arthritis

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Introduction

Spinal deformity causing spinal imbalance is a significant cause of pain and disability. Patients with rheumatoid arthritis (RA) undergoing thoracolumbar deformity correction may be at an increased risk for complications. This study compares outcomes of RA patients following three-column osteotomies to a matched control cohort.

Methods

Patients with RA who underwent three-column osteotomies for thoracolumbar deformity correction were identified retrospectively and a matched cohort of patients without RA was generated. Data regarding demographics and surgical approach, along with endpoints including complications, reoperations, and incidence of proximal junctional kyphosis (PJK) were reviewed.

Results

Eighteen patients with RA were identified, and a matched cohort of 217 patients was generated. With regards to patients with RA, 11.1% were male and the mean age was 68.1 years. Vertebral column resection (VCR) was performed in 22.2% and pedicle subtraction osteotomy (PSO) in 77.8%. Mean case length was 324.4 minutes and estimated blood loss (EBL) was 2053.6 ml. Complications were observed in 38.8% of patients with RA and 29.0% of patients without RA ($p = 0.380$). Patients with RA had a significantly higher incidence of deep vein thrombosis/pulmonary embolism (11.1% versus 1.8%, $p = 0.017$) and wound infections (16.7% versus 5.1%, $p = 0.046$). PJK occurred in 16.7% of patients with RA and 33% of patients were reoperated. Incidence of PJK and reoperation in matched controls were 12.9% and 25.3%, respectively ($p = 0.373$, $p = 0.458$). At follow-up, mean SVA was 6.1 cm in patients with RA and 4.5 cm in matched controls ($p = 0.206$).

Conclusions

Patients with RA may have higher incidence of specific complications, specifically deep vein thrombosis (DVT) and wound infections. Early initiation of DVT prophylaxis in RA patients may be indicated. Perioperative complications, morbidity, and long-term outcomes are otherwise similar to non-RA patients.

Learning Objectives

By the conclusion of this session, participants should be able to:

- 1) Discuss perioperative outcomes associated with three-column osteotomies for adult spinal deformity correction in patients with RA
- 2) Identify two categories of complications at which patients with RA may be at an increased risk
- 3) Describe outcome measures that may be similar between patients with RA and matched controls

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