

RELATIONSHIP BETWEEN CURVE CORRECTION AND CLINICAL OUTCOMES IN ENDOSCOPIC SCOLIOSIS SURGERY

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INTRODUCTION

Radiographic parameters have been shown to have a poor correlation with clinical outcome after open scoliosis procedures. However this has not been previously addressed after endoscopic surgery. The purpose of our study was to prospectively examine the relationship between curve correction and clinical outcome for endoscopic scoliosis surgery.

METHODS

We studied 50 consecutive patients that underwent endoscopic instrumentation, with a minimum follow-up of two years. All patients were assessed pre-operatively and at 24 months post-operatively. Radiological parameters were measured from plain standing radiographs including the coronal Cobb angle, sagittal alignment, coronal alignment and shoulder elevation. Clinical outcome was assessed using the Scoliosis Research Society Outcomes Instrument (SRS-24). Correlation between radiological parameters and SRS-24 scores were determined using the Pearson correlation coefficient.

RESULTS

There were 45 females and 5 males with a mean age of 16.4 years (range, 10 to 46). The pre-operative coronal Cobb angle was mean 51.7 ± 8.5 and the post-operative instrumented Cobb angle was mean 20.4 ± 7.8 corresponding to a mean curve correction of 60.7%.

There was a positive correlation between instrumented Cobb angle and total SRS-24 score ($p=0.03$, $r^2=0.085$) and between curve correction and total SRS-24 score ($p=0.04$, $r^2=0.081$). No correlation was found between coronal alignment, sagittal alignment, shoulder elevation or size of rib hump and the SRS-24 scores ($p>0.05$).

DISCUSSION

Overall endoscopic scoliosis surgery was associated with a good clinical outcome for our series of patients. Using a validated assessment instrument, clinical outcome correlated well with the amount of curve correction achieved.