

# OUTCOME OF POSTERIOR SPINAL FUSION (PSF) IN ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) USING PEDICLE SCREW CONSTRUCT: A SINGLE CENTER REVIEW OF 574 CASES WITH A MINIMUM FOLLOW UP OF 1 YEAR.

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## **Background:**

Advancement in spinal instrumentation technology has led to widespread usage of pedicle screw AIS.

## **Objectives:**

To analyze the surgical outcome in AIS following PSF with pedicle screw construct.

## **Materials and Methods:**

Retrospective review of 574 AIS patient who underwent PSF using pedicle screw construct from 2012 to 2016. Non-idiopathic scoliosis and revision cases were excluded. Outcome measure for this study included the clinical and post-operative radiological outcome.

## **Results:**

There were 503 (87.6%) female and 71 (12.4%) male patients with an average age of  $16.2 \pm 5.2$ . There was 257 (44.8%) Lenke 1, 125 (21.8%) Lenke 2, 14 (2.4%) Lenke 3, 20 (3.5%) Lenke 4, 109 (19.0%) Lenke 5 and 49 (8.5%) Lenke 6 curves. The average pre-operative Cobb angle was  $66.8 \pm 17.9^\circ$ . The pre-operative flexibility of the major curve was  $61.9 \pm 22.8\%$ . The correction rate and side bending correction index (SBCI) at final follow up was  $68.7 \pm 15.1\%$  and  $1.2 \pm 0.6$ . The incidence of post-operative decompensation was 40 (7.0%). The average number of fused level and screw density was  $10.2 \pm 2.3$  and  $1.5 \pm 0.3$ . The average duration of operation was  $160.6 \pm 50.8$  minutes. All patient demonstrated improvement in their SRS-22r scores post-operatively in all the domains.

## **Conclusion:**

Pedicle screw construct in PSF for AIS gives an average correction rate of  $68.7 \pm 15.1\%$ . All patients demonstrated improvement in SRS-22r scores at final follow up.