

# CLINICAL AND RADIOLOGIC OUTCOMES AND PULMONARY FUNCTIONS AFTER VERTEBRAL BODY TETHERING FOR IMMATURE ADOLESCENT IDIOPATHIC SCOLIOSIS: MINIMUM 2 YEARS FOLLOW UP

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# INTRODUCTION

Anterior vertebral body tethering (AVBT) has been reported as a non-fusion technique for immature idiopathic scoliosis.

We report the radiologic, clinical outcomes and pulmonary functions after AVBT in skeletally immature pts more than 2 years f/up.

# MATERIAL & METHODS

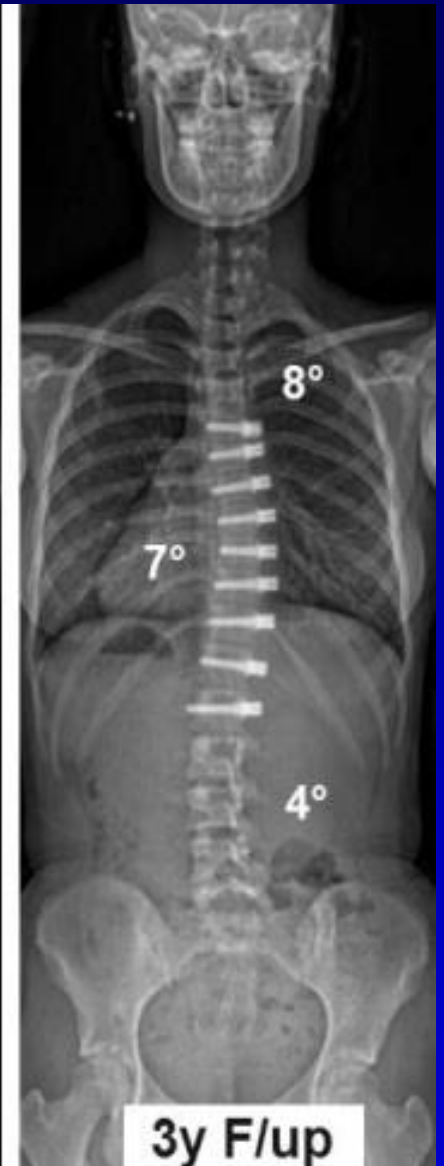
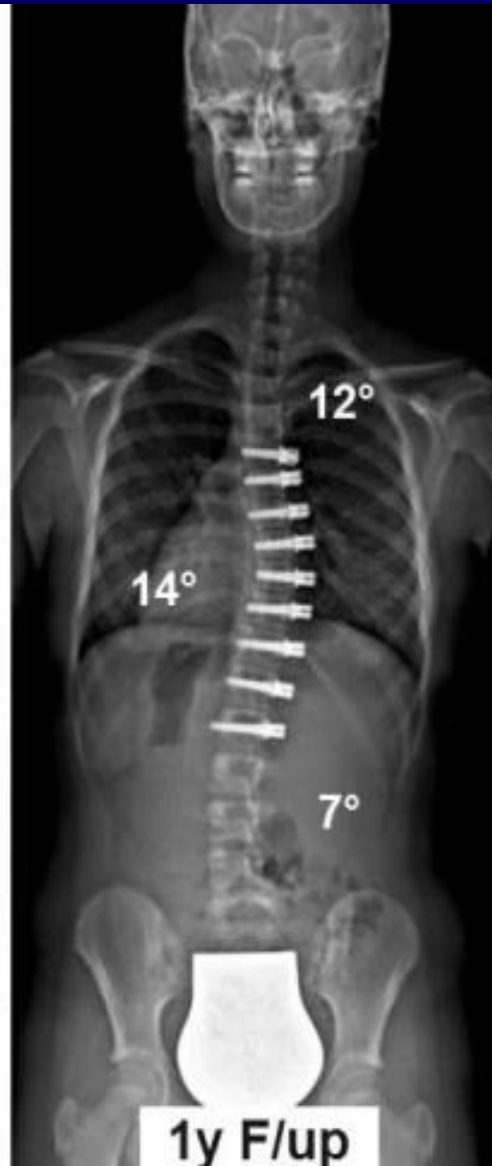
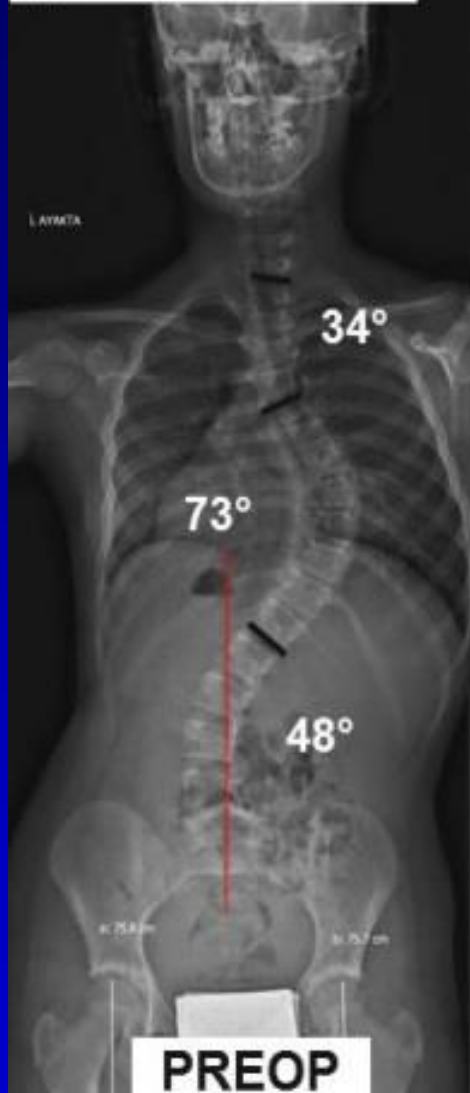
- 15 (14f, 1m) AIS patients (Sanders $\leq$ 4) with curves between 40-75° who underwent mini-open AVBT with 2 years of f/up were included.
- 6 patients with thoracic, 2 patients with lumbar and 7 patients with double, adding up to 22 curves for analysis.
- Number of the patients with Sanders stages 2,3,4 were; 5,7,3 respectively.
- Clinical and radiologic results with pulmonary function tests (PFTs) were compared between preop and f/up.

# RESULTS

- Mean age was was 11y2m (10-15) at surgery.
- Mean f/up was 31month (24-52)

	Preop		Early Postop		F/up
▪ MT	55°	→	20,7°	→	13.6°
▪ TL/L	51°	→	17°	→	11°

9y11m, Sanders: 3



# RESULTS

- **3/15 (20%) patients had skeletal maturity and the remaining (80%) were in maturing stages.**
- **Correction rates among Sanders stages was S2 %64, S3 %65 and S4 %86.**
- **Radiologic success (curves  $\leq 30^\circ$ ) was achieved in 14/15 patients (93%) and in 21/22 curves (95%) at f/up.**

# RESULTS

- There were 2 cases (13%) with overcorrection from the S4 group, one(6.6%) underwent revision while the other one and 2 other cases with cord rupture(13%) were radiologically observed.
- No readmission or fusion were performed.
- There was no statistical difference between preop and f/up values of mean %IC(82%-80%) and mean %FVC(81%-80%) at last f/up.
- SRS22r scores improved preop from 3.9 to 4.2 at f/up.

# CONCLUSION

Overcorrection and cord rupture risk are more likely in immature patients with greater than 80-85% curve correction in the first erect radiographs, however this finding was not statistically significant due to the small number of patients.



# CONCLUSION

Early results of VBT showed radiologic success within 93% of pts and 95% of the curves with more likely correction is near 60-65%.

PFTs were preserved after minimum 2 years f/up in all patients

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