



THE RATE OF PROXIMAL JUNCTIONAL KYPHOSIS IN DUAL GROWING ROD TREATMENT WITH PEDICLE SCREWS AS PROXIMAL ANCHOR

Hacettepe University Spine Study Group
Ankara/TURKEY

Saygin Kamaci
H. Gokhan Demirkiran
Rustam Jalilov
Muharrem Yazici



Proximal Junctional Kyphosis (PJK)

- One of the potential implant-related complication of growing rod treatment
- Incidence; 7- 56 %
- Risk factors :
 - Greater thoracic kyphosis,
 - Greater proximal thoracic scoliosis
 - More proximal level of lower instrumented vertebra
 - Proximal anchor other than
 - Pedicle screw construct
 - Age



AIM

- Find out the, rate of PJK in our series treated with standard surgical sechnique
- Find predisposed risk factors
- Proportion of this ratio with measurement methods



Materials & Methods

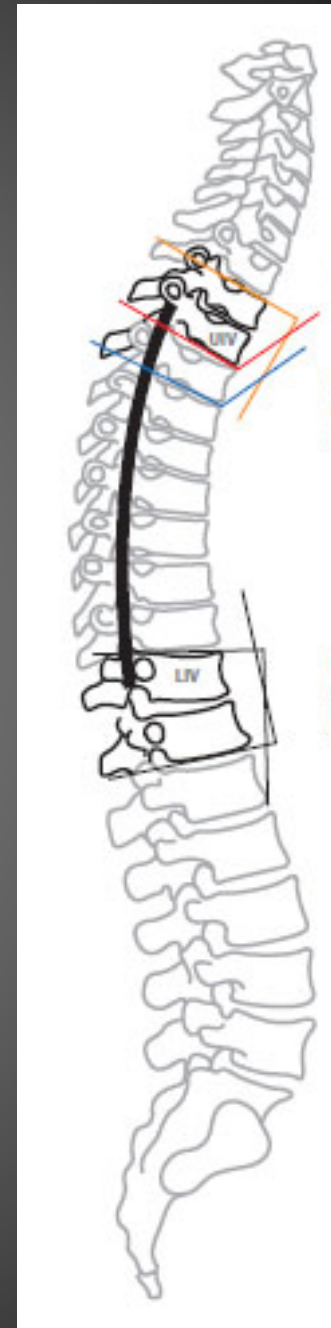
- 37 children (22 female, 15 male)
 - Idiopathic (10)
 - Congenital (11)
 - Syndromic (5)
 - Myelomeningocele(7)
 - Neuromuscular (3)
- Proximal ligamentous and capsular structures were protected during the index surgery and re-exposures
- Follow-up time; 63 month (24- 104)
- Age at time of index operation; 73 month (45- 138)
- Number of lengths; 9 (3-14)



- PJK : An angle $\geq 10^\circ$ increase between the immediate post-op and final follow up values
- 4 screw : 33
- 3 screw + 2 hook : 1
- 2 screw + 2 hook : 3



- GSSG technique (PJK1)
 - One level cephalad to upper instrumented vertebra and lower end plate of the upper instrumented vertebra
- SKAGGS technique(PJK2)
 - Upper end plate of the vertebra two level cephalad to upper instrumented vertebra and lower end plate of the vertebra two level caudal to the upper instrumented vertebra





Results

- Overall PJK rate was 7%
- 2 patients (6%) were revealed with PJK1 method
- 3 patients (9%) were revealed with PJK2 method
- There is no statistical difference between the two methods ($p = ?$)



Complications

- 6/37 (16%) patients had screw pull out or loosening
 - 2/6 developed PJK



Conclusion

- One of the potential implant-related complication of growing rod treatment
- With careful surgical technique - rate ↓
- Different measurement techniques – does not have a significant increase effect on the PJK rates
- Revision of the GSSG measurement technique does not seem to be revised