Correction of L5 body wedging by bone remodeling during growing rod treatment

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Introduction

This is a case report of the correction of L5 Body wedging, which occurred during Growing Rod Treatment, using a Lumbosacral Distraction Rod.

Application of a Lumbosacral Distraction Rod without fusion resulted in successful treatment.
Case: Female, Idiopathic Scoliosis

1y3m at First visit
Starting Brace Treatment

1y5m
5/2006

49°

2y9m
10/2007

91°

T7
L2
2y9m  10/2007
Starting Growing Rod Tx

Op. #1 : Foundation
60°

3y2m  2/2008
Op. #1 post 4m
Op. #2 : Growing Rod Insertion
42°
Coronal Off Balance was corrected by rod bending, but **Wedge Deformity** of L5 Body remained.
Distraction Force was applied between L2 and S1.

Lumbosacral Rod (McCarthy type)
Remodeling of L5 Body had occurred.
SVA moved forward.

The lumbosacral rod was bent into a more lordotic contour.

SVA: 63mm

SVA: 5.9mm
Age: 9y8m

Op. #12:
Removal of Lumbosacral Rod.
Post-op 1m.
Vertebral wedging deformity of the lumbar spine is the most resistive factor against correction of lumbar scoliosis, independent of whether it is a compensatory or a primary curve. It is, therefore, the authors` opinion that every effort must be taken to avoid such deformity.

The case presented here still has a significant body list towards the left due to L2-L3 disc wedging after removal of the lumbosacral rod. We believe this can be managed by extending the instrumentation without fusion to L3.

Her VC and %VC are 1.94/ and 99.5%, respectively, at this stage.
• This case showed a possibility of normalizing vertebral body wedging treated by application of distraction force inducing bone remodeling.

• Intervention should be done while there remains large growth potential.
Conclusion

• We experienced wedged deformity of L5 body which had occurred during Growing Rod Treatment.

• By applying a distraction force to deformed vertebra, remodeling to normal shape occurred.

• We should give closer observation on lumbar body wedging to prevent or correct it in the treatment of growing children.