Costal Distraction System Can be an Alternative for Growing Rod System

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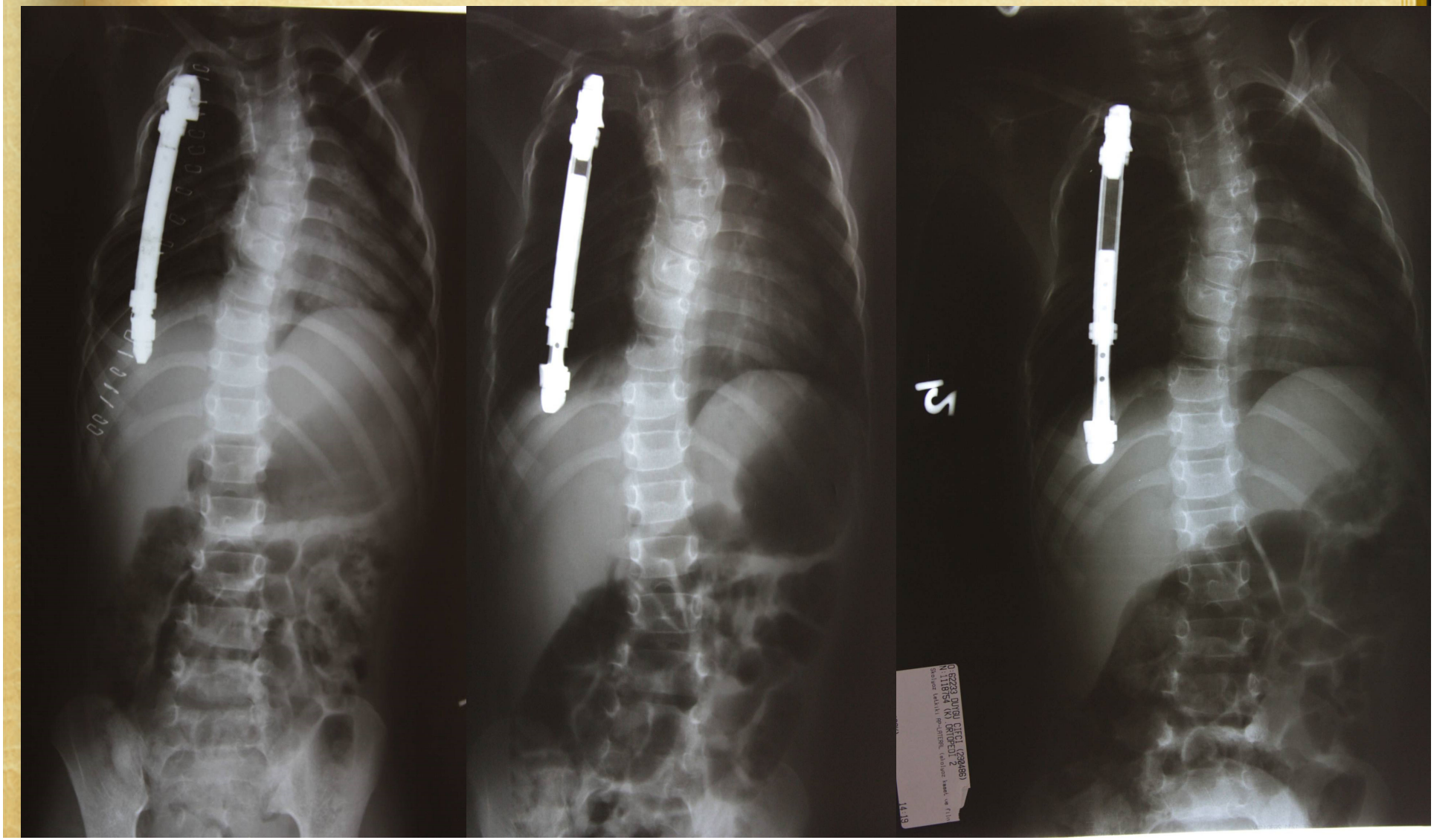
Background

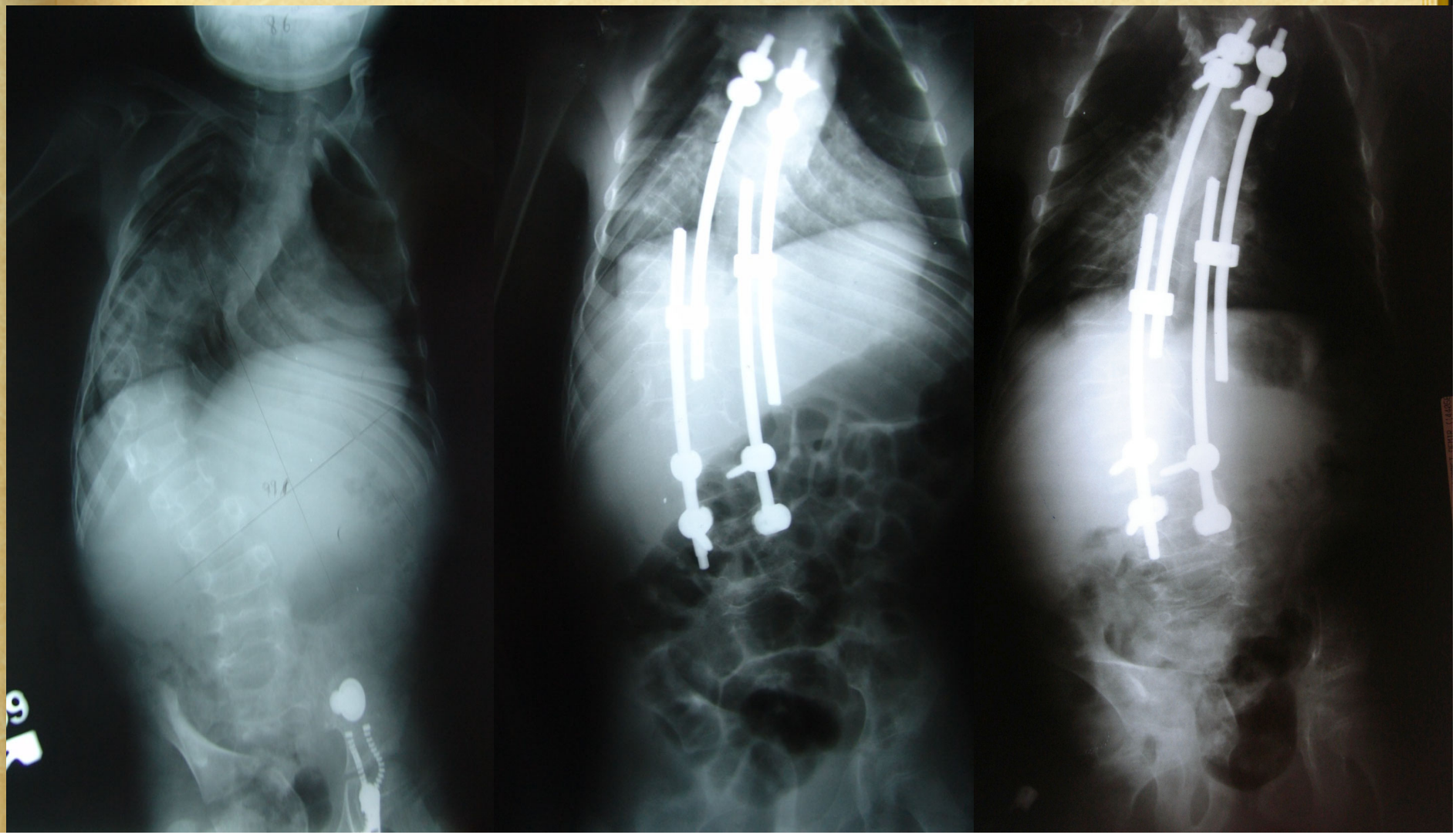
- *Costal Distraction System (CDS)* was originally used to treat chest and spine deformities in young children
- Children with only complex spinal deformities may also benefit from CDS as a growing submuscular device
- We use CDS, to threat progressive spinal deformity without chest wall abnormalities

Methods

- We retrospectively reviewed 18 scoliosis patients
  - Group 1: 11 patients who had CDS
  - Group 2: 7 patients growing rod

- Degrees of scoliosis; before, after treatment and space available for lung and abdomen were measured and complications were recorded.





Results

- The average age at the time of operation
  - 4,3 years at group 1 (1,2-7,1)
  - 8,7 years at group 2 (6,3-12,1)
- The average follow-up time
  - 22 months for group 1 (1-34 months)
  - 29,8 moths for group 2 (8-49)
- Patients under went an average of 3,9 lengthenings in group 1 and 2,5 in group 2

Results

- The mean preoperative Cobb angle
  - 70° and improved to 55° in group 1
  - 80° and improved to 49,5°in group 2 (p>00,5)

- The mean preoperative space available lung (SAL)
  - %85 and improved to %93 in group 1
  - %93 to %98 in group 2 (p>00,5)

Results

- We had 8 complications in group 1 and 4 complications in group 2, mostly we saw device-related complications

Conclusion

- Our observations suggest CDS is a reasonable treatment option for spinal deformity in the early-onset scoliosis and can be an alternative for growing rod system for younger children