



ICEOS

*5th International Congress on
Early Onset Scoliosis
and Growing Spine*

November 18-19, 2011 Hilton Bonnet Creek Hotel • Orlando, FL

Treatment of Spinal Fractures in Pediatric Age: Long Term Results

Mario Di Silvestre, Francesco Lolli, Francesco Vommaro,
Angelo Toscano, Alessio Biazzo, Stefano Giacomini, Tiziana Greggi

Spine Deformity Department - Istituti Ortopedici Rizzoli; Bologna (Italy)

Background

Spine fractures are less common in children than in adults due to:

- less exposure to traumas
- elasticity of immature spine
- smaller body mass

Aim of Our study is to evaluate clinical and radiologic findings and the effectiveness of conservative versus surgical treatment at long-term follow-up.

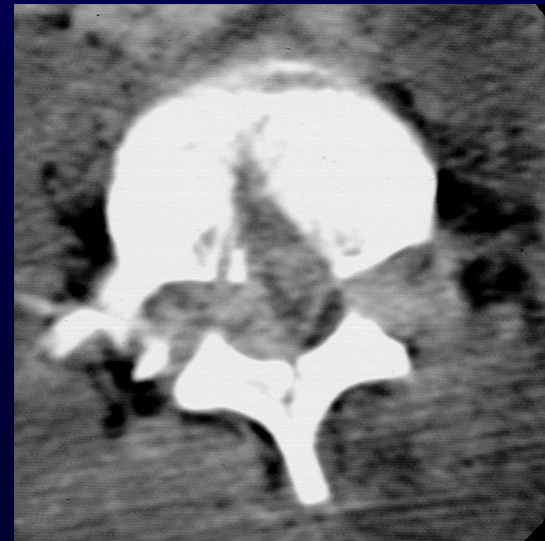
Materials and Methods

- A retrospective clinical and radiographic analysis was performed on a consecutive series of 44 paediatric patients (26 males and 18 females; mean age 14 years, range 3 to 16) affected by vertebral fractures.
- The spinal injury level was:
 - cervical: 12 cases
 - thoracic: 10 cases
 - thoracolumbar: 7 cases
 - lumbar: 12 cases
 - unknown: 3 cases (SCIWORA)



Materials and Methods

- 33 patients: neurologically intact
 - 20 stable fractures
 - 13 unstable fractures
- 11 patients: spinal cord injury (SCI)
 - 6 paraplegia
 - 3 tetraparesis
 - 2 paraparesis



Results

Conservative Treatment: 30 cases

- 20 cases: stable fracture (always successful)
- 6 cases: unstable fracture (residual deformity in 5 cases)
- 4 cases: SCI (no neurologic recovery, paralytic scoliosis)

Surgical Treatment: 14 cases

- 7 cases: unstable fracture (residual deformity in 2 cases)
- 7 cases: SCI (mild neurologic improvement in 4 cases, paralytic deformity in 4 cases)



Conclusions

At a mean follow-up of 18 years (range, 9 to 23) our results showed that.....

- **Conservative treatment was always successful in case of stable fractures**
- **For unstable fractures or lesions with SCI, early surgical treatment (instrumentation and fusion) is mandatory**

Conclusions

In children, a traumatic spinal cord lesion may develop a deformity that is mainly scoliotic, kyphotic or lordotic in >90% of cases.

