Guided Growth System (GGS) in the Treatment of Early Onset Scoliosis - 5 Years Follow-up

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conflict of interest disclosure

There is no conflict of interest for any author
non-fusion techniques based on distraction staplers
Luque-Trolley- 1977 Luqué and Cardoso,

Shilla Growth Enhancing System
LSZ-4D sliding device
sliding-growing rod technique
Project:
From 2009

3 countries

6 hospitals:
Children Orthopaedic Department Medical University Lublin, Poland
St. Jadwiga Hospital, Trzebnica Poland
Orthopaedic Department University Brno, Czech Republic
Children Orthopaedic Department Medical University Bratislava, Slovakia
Orthopaedic Department Medical University Zilina, Slovakia
Children Orthopaedic Department Medical University Cracov, Poland

97 patients
Material

- 26 patients: 20 girls and 6 boys
- Ethiology: idiopathic
- age 6-14 y-s, mean: 9 (Risser 0)
- curve: 62 to 120 ° (average 77 °)
- The follow up ranged from 1 to 5 years (mean -3,7)

Method

Efficiency of spinal deformity correction was estimated by:

Cobb angle measurement of the curvature

T1-S1 length

apical vertebral rotation (AVR) 1 / before the operation, 2 / after surgery and 3 / follow up.
group A 17 children single-curve

fixating and derotation of the apex of the curve.

Spine was enabled to grow and slide cephaly and caudally along the rods.
Method

group B 9 children double-curve

fixating and derotation the caudal L Spine was enabled to grow and slide cephaly along the rods.
Results

**Correction** ranging from 50% to 90% (on average - 74%)

**Finished**: 11 patients (Risser 5) *classic SF* in the whole range of stabilization

(The mobility of all individual segments out of the initial spondylodesis means that there was **no spontaneous SF**)

**IP - derotation of the AV**: all patients, 1° in Nash-Moe classification
Results

No loss of correction in 3D

Length of the spine increased: 7-40 mm (apx 1 mm / month)

Avoided at least 60 lengthening procedures vs conventional GR technique

2 patients required replacement the rods for a longer (10 and 14 months) (risk of slipping of from the extreme lower screws)
metallosis
conclusion

IP- very good 3D correction- specially Group A.

- cosmetic result

- loads to the transfers thought the spine (not implants) - normal bone structure.

No staged surgery procedures.

Less complications but metal pollution

Less costs

Smaller trauma for children

No brace.
Thank you

Source: City of Lublin Marketing Office