

ORTOPEDIE ȘI TRAUMATOLOGIE PEDIATRICĂ

ORTHOPAEDIC-SURGICAL TREATMENT OF CHILDREN WITH FUNNEL DEFORMITY OF THE CHEST AND SCOLIOSIS



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We analyze the treatment of 19 patients aged 5 to 17 years with funnel chest and scoliosis. Combination of the spine and chest severe pathology is specific for the children with system hereditary diseases and seems to have a single root. The combination of the spine and chest deformity mutually aggravates and complicates their surgical correction. We think that, when treating the children with scoliosis and FDC, it is preferable on the first stage to intervene on the spine and, whereas in cases of obvious decrease of the external respiration function parameters as well as in the children under pubertal age and with a relatively light spinal deformity, to perform correction of the chest deformity.

Keywords: funnel deformity, scoliosis, children

VENTRAL AND DORSAL SPINAL INSTRUMENTATION METHODS FOR SCOLIOSIS TREATMENT



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Purpose

The aim of this study is to analyze the types of scoliosis, the main implants used to treat them and the results obtained after surgery.

Material and methods

The study group includes 266 patients with kypho-scoliosis deviation that required surgery and spinal implants. From this group, 187 had adolescent idiopathic scoliosis (AIS) and 79 had early onset scoliosis (EOS). The AIS group had a Cobb angle between 45 and 160 degree. The spinal instrumentation was either ventral, dorsal or both ventral and dorsal. The methods chosen were customized for each case.

The spinal instrumentation used for EOS had ensured and maintained the spinal axial correction. In case of thoracic insufficiency syndrome it was used a device that maintains the spinal axial correction and ensures the expansion of the thoracic cavity.

Results

In patients early diagnosed with a Cobb angle between 50 and 60 degrees, with a bending angle between 24 and 40 degrees, the posterior instrumentation allowed the axial recovery of the spine with its physiological curvature. The postoperative Cobb angle was between 2 and 10 degrees.

For patients with a Cobb angle between 60 and 90 degrees, with a bending Cobb angle greater than 40 degrees and with the presence of structural changes in the short arch of deviation, the postoperative Cobb angle was between 10 and 40 degrees.

For patients with a Cobb angle greater than 90 degrees or those with an „U” shaped scoliosis, the correction was insignificant, 20-30 degrees. In this cases the instrumentation was minimal and the aim was to stabilize the spine.

The recorded complications were: 3 cases with spinal implant deterioration, 3 cases with transient paresis, 5 cases that required proximal or distal extension of the spinal instrumentation, 6 cases of broken screws, 15 cases of infection and 2 cases of death.

Conclusion

For AIS patients, the best results are obtained when the instrumentation is done with minimal invasion expansion devices and instrumentation models with minimal implants.