

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.

For EOS, the best results are obtained using guided growth rods or devices that ensures both the axial spinal corection and the thoracic cavity expansion.

Keywords

Scoliosis, spinal instrumentation, spinal instrumentation model, guided growth rods, thoracic expansion devices.

DISTAL FOREARM FRACTURES AT CHILDREN



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Summary

The presentation elucidates the topicality, statistics, the tactics of treatment of distal forearm fractures at children.

A high frequency of fractures, difficulties in choosing the treatment strategy, issues of recovery and possible complications (premature closure of the growth plate, posttraumatic deformity such as Madelung, joint stiffness etc.) make the distal forearm fractures at children a current topic which deserves attention.

At S.C.M.C "V. Ignatenco " was made a statistics over a period of two years on a group of 488 children. From total number of traumatism, the ones of hands occupy ~ 52%. From hands fractures they constitute 38,92 %. The average age of children is 11,2 years, more frequently at boys ~ 70%. Up to 10 years metaphyseal fractures prevail, but at 12-15 year children-fractures at the growth plate. In 32% of cases both bones were fractured.

There were 5 cases of open fractures 1-st degree after G-A and 3 cases of Volkmann syndrome all resolved without fasciotomies. The peak of the traumatism is from June to August.

The diagnosis doesn't display great difficulties. An important value has the conservative treatment with osteoclasis if needed. An absolutely necessary indication for a open reposition at children are fractures with neuro-vascular disorders, advanced degree open fractures, the failure of closed reposition.

In our clinic the surgical treatment prevails, in particular closed reposition and osteosynthesis with wires under general anesthesia and are not used specific grown-up patient methods of osteosynthesis. We are guided by the principle that any angled displacement should be reduced. As a rule, when both bones of a distal forearm are fractured, the fixation with wires to the radial bone is performed. In case of a remaining displacement at the distal ulna, this doesn't create functional and recovery problems, it can just remain a cosmetic defect, which can be well reshaped in the long run. At the next stage, under local anesthesia, wires are removed, their ends are left above the skin, but further care and aseptic dressings are needed. The subsequent results of up to 2 years are rated as satisfactory and good, but they require a continuous assessment.

The basic objectives of the treatment are to restore bone alignment and clinical appearance, minimum soft tissue adjacent damage, preventing complications, pain relief, restore a functional forearm rotation, patient satisfaction and a good result afterwards.

TREATMENT OF CONGENITAL PSEUDARTHROSIS OF TIBIA USING AXIAL BONE GRAFT ON ELASTIC SPLINT, RH-BMP, COMPACTED WITH CABLES AND RECONSTRUCTIVE PLATES



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Introduction: given the recalcitrant behaviour of pseudarthrosis in congenital pseudarthrosis of tibia (CPT) there is no ideal solution to treat such challenging deformities. Reconsideration of already known principles using modern technology may generate new treatment methods.

Material and methods: the present paper presents the preliminary results of an original reconstruction procedure described by Prof. Dr. Gh. Burnei to treat large bone defects in paediatric orthopaedics. A case series study, the surgical technique, complications and illustrative cases are presented.

Results: 4 cases of 18 patients having CPT, surgically treated between 1997 and 2012, were operated using this technique. The principles of the method is to create an optimal osteoconductive and osteoinductive environment using bone autograft, bone allograft and bone graft substitutes and to provide a good stabilisation of the bones. The follow-up period of the study group ranged from 2 to 17 years. Three of the 4 patients are able to ambulate.

Conclusion: we believe that the present technique could be a reliable alternative to other procedures, especially in cases of repeated failures.

Keywords: bone graft; congenital pseudarthrosis of tibia; large bone defect; circumferential compression