Objective of study. To implement the method of osteosynthesis in children in order to protect the bone regeneration structures.
Material and methods. In the last five years combined fine osteosynthesis was performed in 29 children aged between 3 and 15 years. The following fractures were determined: complicated humeral fractures - 5 children, femoral fractures –18 patients, leg fractures – 4 patients, and clavicle fractures - 2 patients. In diaphyseal forearm fractures with indications for surgical treatment, osteosynthesis was performed with pins or elastic Bogdanov rods. Combined osteosynthesis was performed in children with diaphyseal humeral fractures (spiral, oblique, comminuted with major fragments and displacement) with pins inserted from the distal (lateral and medial) metaphyseal side through the bone canal, across the fracture level and up to the upper part of the humerus. Thus pins have three support points (introduction, crossing and the inner part opposite to the upper one). The stability was ensured by osteosynthesis performed with with cerclage wiring. In complicated diaphyseal femoral fractures, combined osteosynthesis was performed with antegrade elastic intramedullary rod and cerclage wiring. In diaphyseal distal femoral fractures, osteosynthesis was performed analogously to that in humeral fractures. In complicated diaphyseal fractures of the leg, combined osteosynthesis was performed with pins inserted distally and cerclage wiring.
Results. Fragments were consolidate din all operated children. No cases of pseudoarthrosis or post-traumatic deformity were recorded. The usual treatment for recovery allowed to restore the movements in the immobilized joints.
Discussions. The method of combined osteosynthesis in complicated diaphyseal fractures in children has a major priority, protecting periosteal and endosteal tissues that are severely affected in osteosynthesis with screwed plates or massive locked intramedullary rods. Biomechanical researches (Muleret al., 2011) have objectified the priorities of cerclage wiring. Intramedullary osteosynthesis with thin elastic rods or thick pins protects the endosteum; the pins are crossed through the bone canal mechanically but not electrically.
Conclusion. Combined osteosynthesis of comminuted complicated diaphyseal fractures of the humerus, femur and tibia in children have led to good results, with absence of complications. There were used modern, fine and elastic fixators associated with cerclage wiring, thus protecting the periosteum, endosteum and cortical bone.
Keywords: complicated fractures, fine osteosynthesis.

ECHOCARDIOGRAPHY CRITERIA FOR THE COMPRESSION OF THE HEART IN CHILDREN WITH FUNNEL CHEST

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Echocardiography performed in 30 children aged 4 to 18 years, with funnel chest of the second and third degree. The study was conducted by standard methods. The survey found changes of heart. In 12 children changed the shape of the right ventricle. In two cases observed change in the geometry of the right atrium. Changed the kinetics of the interventricular septum. In 5 cases revealed hypokinesia in 2 cases of hyperkinesis and in 2 cases asynchronism reduce the interventricular septum. In 7 children recorded an increase in speed characteristics of diastolic flow through the tricuspid valve.
Keywords: funneled deformation of a thorax, echocardiography, Doppler effect

CONDUCT TREATMENT OF JUVENILE SLIPPED EPIPHYSES

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Introduction: mostly occurs in young adulthood. The disease occurs with frequency of 4-5 cases per 100 000 inhabitants, and patients with juvenile slipped epiphyses (JE) represent 0.5-5% of children with orthopedic pathology. The ratio of boys and girls - 3:2. Bilateral involvement is described in 20% of patients.
Discussions: JE was described for the first time in 1572. Due to the relative rarity of the disease, many physicians are not aware of the existence of it. Until now the vast majority of children with JE were getting treatment lately.
JE etiology is still far from being fully disclosed. The factors are well established: hormonal disorders, genetic predisposition, as well as hard exercises and micro traumas. Endocrine-orthopedic symptom of the disease is the breaking the correlation between sex hormones and growth hormones. Those two groups of hormones play an important role in the development and delayed puberty of the epiphyseal plates. According to some authors the obesity, anteversion on proximal femoral and bones immaturity are the causes of JE.
The disease pathogenesis is a slow displacement of proximal femoral epiphysis down and dorsal. With JE the head of the femur remains acetabular fossa, so both femoral neck and femur lose contact with him. This balance is rotating around its longitudinal axis, "flips" to exterior and positions member in the position of external rotation.

The clinic is pretty typical and severe form of the disease. The diagnosis is based on anamnesis, clinical examination, orthopedic, X-ray, CT and MRI. Depending on the clinical data, 3 forms of JE are determined: acute, chronic and acute form of the background chronic evolution. R-study must be carried out in two projections: anteroposterior and lateral after Lowenstein - to perform radiometric survey of Klein line.
The aim is to obtain treatment of epiphysiodesis: I stage is skeletal traction which ends up with surgery.
Conclusions: mandatory consultation at ortoped-pediatric doctor if there are disorders in children walking, pain in the limbs. Benefit of the treatment is directly proportional to the time when the disease was diagnosed. Support of the affected limb is excluded up to 6 months from diagnosis.
Keywords: juvenile slipped epiphyses, hormonal disorders, Line Klein

OSTHESYNTHESIS OF LESIONS IN TUBULAR BONES GROWTH ZONES AT CHILDREN

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Introduction: Growth zone lesion areas of tubular bones at children are fairly common, their consequences are blocking of bone growing area and limb deformation. According to contemporary data - growth areas lesions represent 5% -17% of the total number of children fractures. The appearance of late growth, limb deformation are the signals of lesion in the growing area.
Discussions: The purpose of this paper is to improve treatment results of children with affected growth areas, based on complex examination, using contemporary methods.
Clinical data is based on analysis of treatment results of these injuries in our section. Over the last three years in our section were treated 239 children with lesion in growth area, which constitutes 11% of the total number of children with fractures. Of which 190 were during acute trauma and 49 with secondary damage. 91% were children with grade II after Solter Harris and more rarely - 9% grade I after Solter-Harris. Main method used in lesion diagnosis is the clinical radiological method. Computed tomography is indicated only for diagnosis concretization and the affected area appreciation. 190 cases were undergoing the treatment in the acute period, the orthopedic reduction was performed, by discharging of he affected area by skeletal traction and plaster immobilization. Indications for surgical treatment were the outdated lesions, inefficiency of orthopedic reduction. Surgical treatment methods - transosseous osteosynthesis, orthopedic and surgical reduction with pins fixation. The consequences treatment was surgical, using osteotomy methods for deformity correction, affected limb lengthening by the Ilizarov method. Treatment results assesment was based on the following indices : anatomical condition, functional during the trauma, deformities and limb shortness were appreciated during later period. Treatment results have been good and satisfactory 95.6% (228 cases). In 4.4% (11 cases) the results were unsatisfactory and required repeated surgical corrections.
Conclusions:
1. The maintenance method is the stated method for children with growth zone lesions in the acute period.
2. The surgical treatment has indications in outdated lesions during late addressing.
3. Lesions in growing area at children represent 11% of the total number of tubular bone fractures, serious lesions causing limb deformity.
Keywords: physial area, tubular bones, deformation

OSTEOSYNTHESIS IN EXTREMELY SEVERE TRAUMA IN CHILDREN

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Objective of study. To assess treatment tactics and technique in order to save the affected segment.
Material and methods. This concept included children with injuries after severe trauma, which caused fractures and injuries so complicated that at the first stage the amputation of the segment was recommended. In the past 25 years, experts in the field were directed to refuse primary amputation, but to perform emergency anti-shock treatment and to carry the patient to the Institute of Mother and Child. The lot of clinical experience included 15 injured children aged between 4 and 18 years old. Only one girl suffered an extremely severe trauma of the upper limb, the rest of them (14) had fractures of the lower limbs, and 3 of them were found to have simultaneously fractures of the upper limbs. All patients had open fractures, III B degree of one or more segments, comminuted fractures, crushed soft tissues (even fingers in some children), very dirty major wounds. In 10 children the trauma occurred as a result of road accident (hit by car, wheel crossing over the lower limb