# **Pugacheva E.**

# **DIFFERENTIAL DIAGNOSIS OF REACTIVE ARTHRITIS AT CHILDREN**

**Kharkiv National Medical University, Kharkiv, Ukraine**

**Department of pediatrics 1 and neonatology**

**Introduction.** Articular syndrome is one of the most common pathological conditions occurring both within the group of rheumatic diseases, as well as outside it. Reactive arthritis (ReA) is an important medical and social problem due to the high prevalence and the largest (53,7%) proportion in the structure of joints’ pathology in children. Traditionally, radiography of joints is used as a visualization method. However this method couldn’t assess the severity of inflammatory changes. In the initial stages of chronic inflammatory joints’ diseases radiological signs are absent or minimal. Method that expands the diagnostic capabilities of assess joints’ changes in children is ultrasonography. Misdiagnosis or absence of treatment associated with invalidization and reduced quality of life. Because timely verification of joints’ pathology could improve outcomes, it is important to identify and evaluate informative methods to enhance early detection.

**The aim** of the investigation was to improve differential diagnosis between reactive arthritis and juvenile arthritis (JRA).

**Material and methods**. 25 children aged 2 to 16 years with joint syndromewere examined by complex clinical-laboratory investigation. In addition, the examination has included ultrasonography of joints. The criteria for exclusion from the study: psoriatic arthritis, lupus erythematosis and juvenile spondyloarthritis.

**Results**. Among 25 examined children with articular syndrome 17 (68%) were female, 8 (32%) - male. Patients have been devided into 2 groups. I group consist of 12 patients with reactive arthritis, II group consist of 13 children with juvenile rheumatoid arthritis. Average age I group’s patients is 11 years old, at II group - 7 years old. Girls prevailed at both groups. Fever was observed at 5 (41,7%±14,9) children of I group and at 9 (69,2±13,3%) patients of II group. Morning stiffness was present only at II group 12 examined (92,3±7,7%). Number of affected joints in children with reactive arthritis averaged 2, whereas in children with JRA – 5 joints. It is noteworthy, there was prevalent asymmetric involvement of the joints of the lower extremities at children with ReA, and symmetric affection of upper extremities’ joints at II group. Onset of the disease was associated with a trigger in 7 (58,3±14,8%) cases at I group and in 11 (84,6±10,4%) cases in second. Complete blood count demonstrated increased erythrocyte sedimentation rate (ESR) in both groups. However, in the II group noted ESR level was higher – 29,8±13,2 mm/h. Average ESR level at I group was 19,1±11,8 mm/h. Furthermore, 10 (76,9±12,2%) patients of II group have had anemia. Increase of acute phase indicators, such as C-reactive protein, haptoglobin have been reported in both groups of patients.

Imaging methods were selected X-ray examination of joints, as well as the ultrasonography of joints. Radiological examination has found changes at 3 (25±13%) patients of I group. It showed a compaction of periarticular soft tissues. 3 (23,1±12,1%) patients with JRA have had narrowing of the joint spaces, 2 (15,4±10,4%) - osteoporosis and 4 (30,8±13,3%) - increase of periarticular soft tissues by X-ray. Ultrasonography has detected changes in joints in 100% of cases at both groups. There were synovitis, thickening of the synovial membrane, expansion of joint space, tendinitis at children with ReA. At the II group synovitis, proliferation and hypervascularization, expansion/narrowing of joint space of the synovial membrane, tendinitis, bursitis were detected by ultrasonography.

**Conclusion.** Thus, ultrasonography of joints is non-invasive, low cost, sensitive method that enables to identify changes in the joints at children with articular syndrome. This method can be used as one of the differential diagnostic methods of ReA and JRA at children.