There is a review of current literature and data of own survey of 35 children and 182 adults with ankylosing spondylitis. Compared with the disease in adults, juvenile ankylosing spondylitis (JAS) has a number of features of the clinical course, which occur only in boys. There are the appearance of more frequent lesion of axial joints (shoulder, hip), the development of the system osteodeficiency (osteopenia, osteoporosis), rise of enthesitis (in particular, the condyles of the femur and the vertebral joints, but not achillodynia), uveitis, and cardiomyopathy, proliferation (and not destruction) of bone sections in the debut of spondylopathy and rare involvement in the process of the lumbar spine and the formation of epiphyseal osteoporosis, higher concentrations in the blood of interleukin 8 and 17, but lower values of interleukin 1β, circulating immune complexes, fibrinogen, immunoglobulin A and G. It may be advisable to allocate JAS into a separate nosological form, such as juvenile idiopathic arthritis (in the recent past juvenile rheumatoid arthritis). Keywords: ankylosing spondylitis, children, adults, clinical course, pathogenesis.

The review presents data of current literature and data of own survey about the clinical course and pathogenesis of ankylosing spondylitis (AS) in children. AS refers to the systemic rheumatic diseases that cause enormous medical and social damage to the concrete sick person and to the society as a whole, at the same time any nation experiences noticeable economic damage. AS significantly impairs the quality of life of patients due to the rapid loss of ability to work as early as adolescence. In cases of onset of the disease at the childhood, patients often experience a variety of social problems (inability to get a good education, difficulties with employment, family isolation and so on.). It is considered that the formation of juvenile AS (JUS) at the debut of the disease refers to the prognosis negative factors for further development of the pathological process. Improved the diagnosis and more effective treatment for children with the JUS are among the most urgent tasks of pediatric rheumatology, but many questions about clinical course and pathogenesis of the disease are remained unclear. There are features of the clinical course of AC, which began in childhood and adulthood, which is
primarily manifested by differences in the character of the spinal column injuries, much more functional disorders of peripheral bone joints, mixed frequency of involvement in process "root" or "axial" (hip, shoulder) joints, enthesis, development of ophtalmopathy, change the camera and valve of the heart with cardiac arrhythmia. It was found that patients with the transformation of AU from juvenile form tend to have higher growth, although other anthropometric parameters do not differ, in this group of patients there are often indications for arthroplasty and prothesis of hip joint due to coxitis. Note some evolution of the clinical manifestations of the JUS in adult patients. We compared the course of AS in 35 children and 182 adults, respectively, at an average age of 14 and 30 years correspondingly. The degree of disease activity was about the same, but in case of JUS seropositivity rate of pathological process by the presence in serum of anti-citrullinated protein antibodies significantly prevailed by 17%. Enthesopathies and enthesitis in children were diagnosed in 3.1 times more often than in adult patients (respectively 87% and 29% of cases). JUS has not been characterized by achillodynia; plantar fasciitis was met equally, but tarsitis, enthesitis of femur condyles and vertebral joints were marked significantly more. Prognosis positive sign concerning enthesopathies/enthesitis is ossification of the intervertebral discs and prognosis negative – lesion of sternoclavicular, ankle and hip joints, the presence of arthrocalkinosis. We have found that for the JUS is not typical development of epiphyseal osteoporosis, osteouzuras, intraarticular bodies of Pellogri-Shtaydi and Hoff. According to our data, in adult patients with AC frequency distribution of uveitis, scleritis (episcleritis), keratitis and conjunctivitis is 2:1:1:1, whereas in the JUS - 6:1:1:2, and the severity of ophtalmopathy is affected by the degree of disease activity, the presence of tendovaginitis, enthesopathies, spondylopathies and osteoporosis. Compared with the disease in adults, JAS occurs exceptionally in boys. JAS is manifested more frequently with development of systemic osteodefisitis (osteopenia, osteoporosis), proliferation (and not destruction) of bone sections in the debut of spondylopathy and rare involvement in the process of the lumbar spine and the formation of epiphyseal
Osteoporosis. We have found that JAS manifested with high concentrations in blood of interleukin 8 and 17, but lower values of interleukin 1β, circulating immune complexes, fibrinogen, immunoglobulin A and G. Imbalance of cytokine, system nitric oxide, amino acid metabolism, growth factors and eicosanoids, hyperactivity of cyclooxygenase and matrix metalloproteinases are involved in the pathogenesis of JAS. Among the pro-inflammatory cytokines in the pathogenesis of JAS the greatest importance is attached to tumor necrosis factor alpha, interleukins 17 and 23. In turn, higher levels of interleukin 1, 6, 8 and 10 are recorded in the tissues of the affected spine. In JUS the cytokines change osteoclast/osteoblastic modernization of bone with violation of its mineral density. It may be advisable to allocate JAS into a separate nosological form, such as juvenile idiopathic arthritis (in the recent past juvenile rheumatoid arthritis).