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JUVENILE IDIOPATHIC ARTHRITIS AND OSTEOPOROSIS OF THE LUMBOSACRAL JOINT. CASE REPORT

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**Resume**

*This is a case report of juvenile idiopathic arthritis in 14-year-old boy followed in the Department of Pediatric Rheumatology, Tashkent Medical Academy. An important landmark of this discovery involves the acknowledgment of complication of juvenile idiopathic arthritis with osteoporosis and osteochondrosis. Despite many advances, the numerous available studies cannot explain several implicit mechanisms of development of complication in juvenile idiopathic arthritis and pathogenesis yet.*

**Keywords:** Juvenile idiopathic arthritis; osteoporosis; osteochondrosis

ЮВЕНИЛЬНЫЙ ИДИОПАТИЧЕСКИЙ АРТРИТ И ОСТЕОХОНДРОЗ ПОЯСНИЧНО-КРЕСТЦОВОГО СУСТАВА. КЛИНИЧЕСКИЙ СЛУЧАЙ

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**Резюме**

*Это клинический случай ювенильного идиопатического артрита у 14-летнего мальчика, наблюдаемого на кафедре детской ревматологии Ташкентской медицинской академии. Важность этого наблюдения является изучение осложнения ювенильного идиопатического артрита остеопорозом и остеохондрозом. Несмотря на многочисленные достижения, многочисленные доступные исследования пока не могут объяснить некоторые сложные механизмы развития осложнений и патогенез при ювенильном идиопатическом артрите.*

**Ключевые слова:** Ювенильный идиопатический артрит; остеохондроз; остеопороз

ЮВЕНИЛ ИДИОПАТИК АРТРИТ ВА БЕЛ-ДУМҒАЗА БЎҒИМИ ОСТЕОХОНДРОЗИ. КЛИНИК ҲОЛАТ

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**Резюме**

*Бу клиник ҳолатда Тошкент тиббиёт академияси болалар ревматологияси бўлимида 14 ёшли болада идиопатик артритнинг ўзига ҳос кечиши ва асоратлари кузатилган. Ушбу кузатувнинг аҳамияти шундаки, остеопороз ва остеохондроз билан кечувчи идиопатик артритнинг асоратларини ўрганишдир. Кўпгина ютуқларга қарамай, кўплаб мавжуд тадқиқотлар ҳали ҳам идиопатик артритда баъзи мураккаб асоратлар механизмлари ва патогенезини тушунтириб бера олмайди.*

**Калит сўзлар:** Ювенил идиопатик артрит; остеохондроз; остеопороз

**Relevance**

Juvenile idiopathic arthritis (JIA) is a chronic childhood inflammatory disease of unknown origin [1]. JIA occurrence and outcomes are likely influenced by multiple determinants including 95 genetic [2, 3], sociodemographic [4], infectious

[5], and environmental [6] factors. Osteoporosis is a highly prevalent disorder characterized by the loss of bone mass and microarchitecture deterioration of bone tissue, attributed to various factors, including menopause (primary), aging

(primary) and adverse effects of relevant medications (secondary). Much of the attention has focused on the focal bone resorption in articular and periarticular bone associated with disorders such as rheumatoid arthritis (RA), the prototypical inflammatory joint disease. However, it is clear that many of the inflammatory rheumatic disorders also have effects on systemic bone remodeling. Studies have documented that osteoporosis and increased risk of fracture account for a component of the morbidity associated with these conditions. In part, these adverse skeletal effects may be related to the therapies used to treat these diseases. This review will focus on the inflammatory rheumatologic disorders that target the articular and periarticular tissues. These entities include RA, juvenile idiopathic arthritis (previously classified as juvenile RA), the seronegative spondyloarthropathies, and systemic lupus erythematosus. It is important to note,

however, that many of the related immune-mediated rheumatic conditions such as systemic vasculitis may also be accompanied by adverse effects on skeletal remodeling and increased risk for osteoporosis, in part, related to the use of high-dose glucocorticoids and other therapies that adversely affect the skeleton.

**CASE REPORT**

A 14-year-old boy was noted by his parents to be morning stiffness for several weeks, joint swelling, and limitation of range of movement, tenderness and pain on motion, increased heat on joints. Duration of these symptoms is more than 7 weeks. His mother commented that he was quieter, less keen to play basketball, was not able to do flexion and extension of his arms. Investigations showed that his basic blood tests (CBC, acute phase reactants) were normal but his ANA (antinuclear antibody) test was positive.



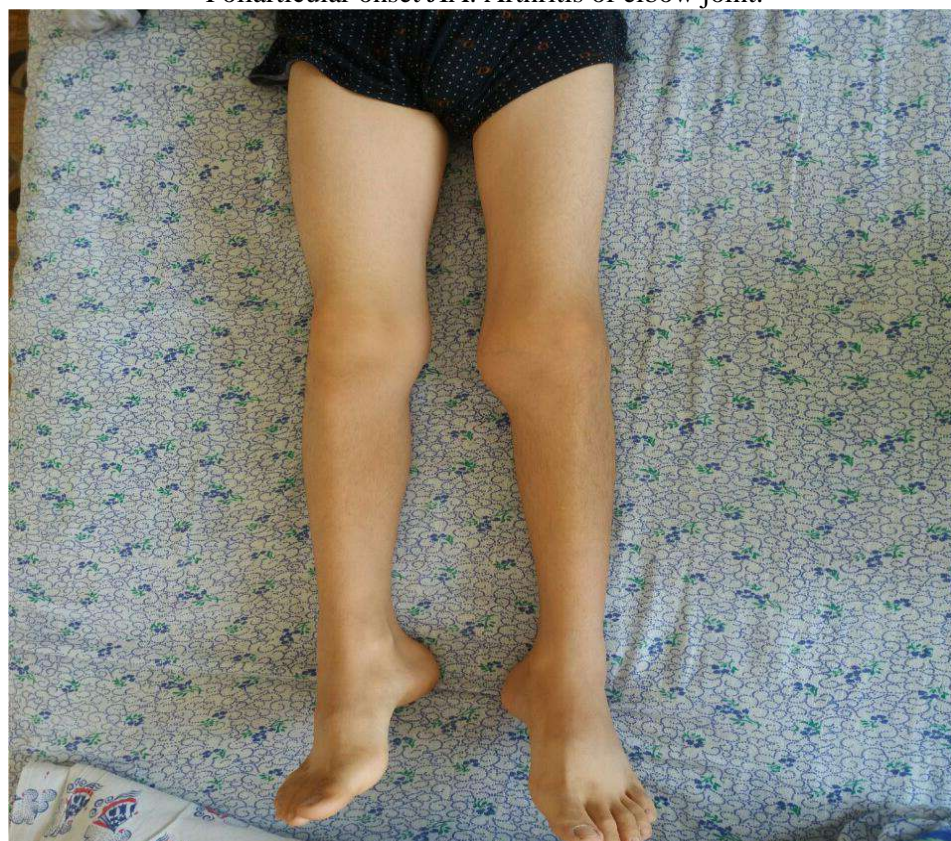
T2-SE sag-cor-tra, T1-SE sag; STIR sag, 4 mm.

The lumbar lordosis is erect. In the structure of the intervertebral discs, there are initial degenerative changes with the preservation of their height. Central protrusion of discs L4-L5 (1.5 mm), L5-S1 (1.5 mm), with moderate compression of the dural sac. The vertebral bodies with small marginal sharpenings, subchondral degenerative changes. The spinal cord is at the level of study of the usual shape, size and structure, the contours are clear and even. The

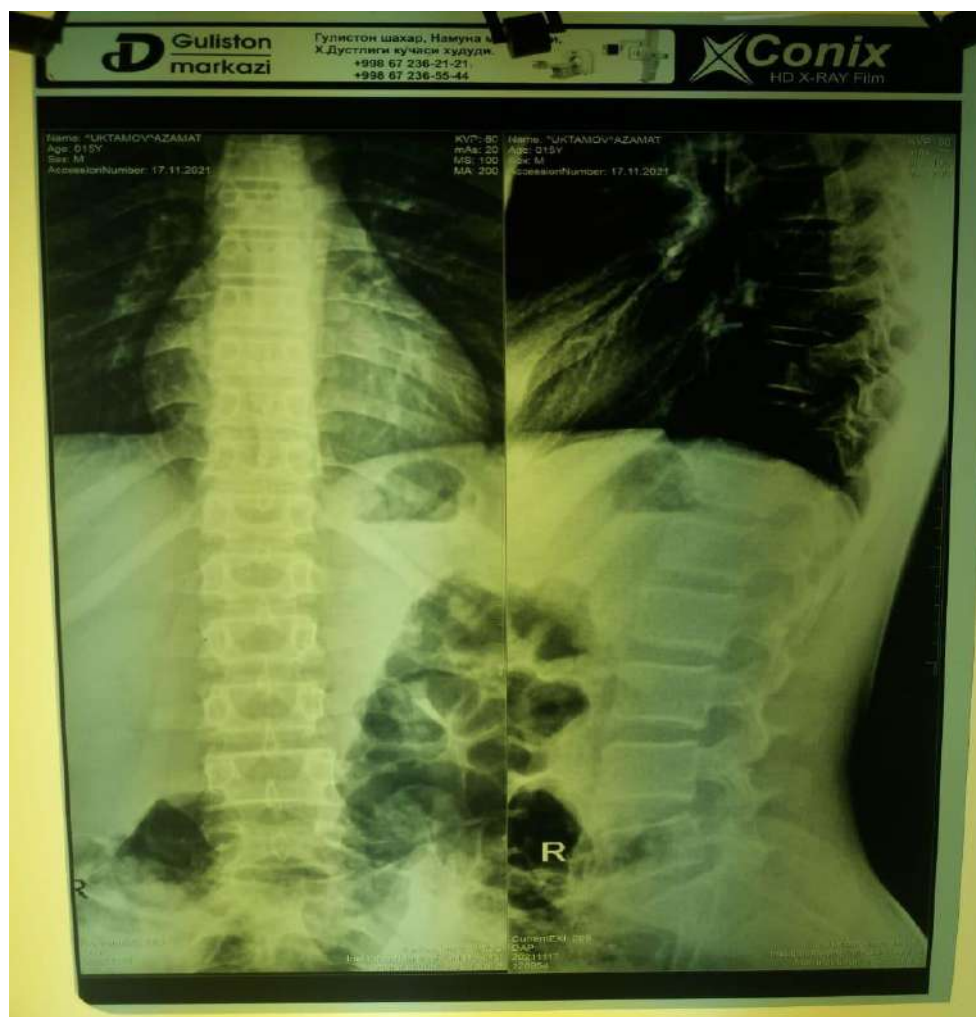
ponytail was unremarkable. Subdural space without pathological signals. The ligaments are not thickened, the signal characteristics are not changed. Facet joints are of normal configuration. The spinal canal is of normal size. Paravertebral soft tissues without pathological signals. Conclusion: MRI signs of the initial manifestations of osteochondrosis of the lumbosacral spine. Protrusion of disks L4-L5, L5-S1.



Poliarticular onset JIA. Arthritis of elbow joint.



Poliarticular onset JIA. Arthritis of knee joint.



X-ray of the lumbar spine in two projections

The axis of the spinal column on the radiograph in frontal projection is moderately arcuate with torsion of the vertebrae. The angle of scoliosis is 7 degrees. The height of the interbody spaces is not reduced. The endplates are compacted, clear, even. The relationships between the arches of the vertebrae are changed as a result of torsion of the bodies. The contours of the arcs are clear. The roots of the arches are asymmetrical. Their contours are clear and even. Facet joints and articular surfaces are not changed. The joints are not narrowed. The relationship between the vertebral bodies is altered as a result of their torsion. The shape of the vertebral bodies is not changed. The contours are clear. The structure is uniform. Sacroiliac joints - the articular surfaces are not changed, the joint spaces are narrowed. Soft tissues are not changed. Lateral projection: physiological curvature of the lumbar spine - lordosis. The anterior wall of the spinal canal: the line drawn along the posterior surface of the vertebral bodies is deformed due to the torsion of the vertebral bodies. The height of the discs is not reduced. The height of the vertebral bodies is not

changed. The anterior longitudinal ligament is not differentiated. Conclusion: the initial signs of osteochondrosis of the lumbar spine. Scoliosis of the lumbar spine.

He was treated with low dose oral and local corticosteroids, oral and local NSAID (Ibuprofen) and weekly DMARD (methotrexate) given by subcutaneous injection, was injected IV pentoxifylline for improvement of microcirculation and folate acid tablets.

### Conclusion

There is no doubt that there are plethora complications of JIA. For instance, joint contractures, growth failure, leg length discrepancy, osteoporosis, joint damage requiring replacement, blindness from associated uveitis, scoliosis (secondary), macrophage activation syndrome and amyloidosis. In our patient we can see one of the harmful complication of JIA – osteoporosis.

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