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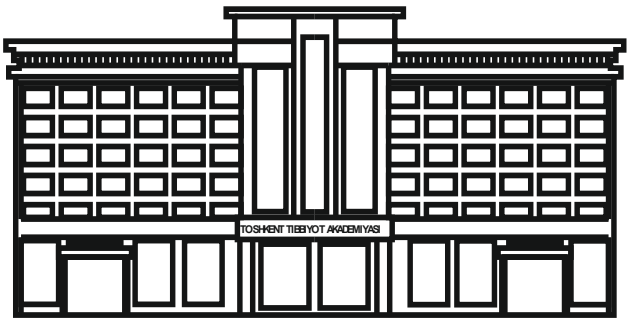

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MAIN CLINICAL AND LABORATORY ASPECTS OF THE COURSE OF CARDIOVASCULAR DISEASES IN PSORIATIC ARTHRITIS

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PSORIATIK ARTRITDA YURAK QON-TOMIR TIZIMI KASALLIKLARINING ASOSIY KLINIK VA LABORATOR XUSUSIYATLARI

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ОСНОВНЫЕ КЛИНИЧЕСКИЕ И ЛАБОРАТОРНЫЕ АСПЕКТЫ ТЕЧЕНИЯ СЕРДЕЧНО-СОСУДИСТЫХ ЗАБОЛЕВАНИЙ ПРИ ПСОРИАТИЧЕСКОМ АРТРИТЕ

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Psoriatik artrit bu psoriaz va boshqa bir qator kasalliklar bilan bog'liq yallig'lanishli artropatiya. Psoriatik artritli bemorlarda yurak qon-tomir patologiyasini rivojlanishida kardiovaskulyar xavf omillari va yallig'lanishning rolini o'rganish dolzarb muammo hisoblanadi. Ushbu artrit bilan og'rigan bemorlarda psoriatik artritning klinik ko'rinishlari, laboratoriya parametrlari, yallig'lanish va yurak qon-tomir tizimidagi o'zgarishlar o'rtasidagi bog'liqlik qiziqish uyg'otadi.

Kalit so'zlar: *Psoriatik artrit, endoteliy disfunksiyasi, psoriaz, komorbid holat.*

Псориатический артрит - воспалительная артропатия, часто связанная с псориазом и некоторыми другими сопутствующими заболеваниями. Изучение роли факторов кардиоваскулярного риска и воспаления в развитии сердечно-сосудистой патологии у больных псориатическим артритом является актуальной междисциплинарной проблемой. Представляет интерес наличие взаимосвязи между клиническими проявлениями псориатического артрита, лабораторными показателями, воспаления и изменениями сердечно-сосудистой системы у больных данным артритом.

Ключевые слова: *Псориатический артрит, дисфункция эндотелия, псориаз, коморбидность.*

Introduction: Psoriatic arthritis (PsA) is a chronic progressive systemic disease associated with psoriasis, in which the pathological process is predominantly localized in the tissues of the musculoskeletal system and leads to the development of erosive arthritis, bone resorption, multiple enthesitis and spondyloarthritis [1]. In addition to joint and skin manifestations, most patients with PsA have more than one comorbid condition such as cardiometabolic disease including obesity (diabetes, hypertension, hyperlipidemia, hepatic steatosis, cardiovascular outcomes), inflammatory bowel disease, uveitis, infections, malignancies, and fibromyalgia. All of these factors can play an important role in the choice of therapy. In this regard, there is a need to study the above pathology and its relationship with concomitant pathology [2].

The prevalence of PsA in the general population is estimated at 0.3-1%, and psoriasis (PS) in the world is 2-3%, and the incidence of arthritis in patients with PS ranges from 5 to 42% [1].

PsA has long been considered a disease with a more favorable course and prognosis compared to other arthritis. However, the analysis of a large number of observations shows that PsA not only leads to a pronounced dysfunction of the joints, but also causes early and high mortality in patients [3,4,6]. Mortality in patients with PsA exceeds the population by 59% in women and by 65% in men [5]. Among the causes of death in patients with PsA, the most common are cardiovascular diseases (CVD), as well as damage to the respiratory system [7]. It is not possible to explain the increase in cardiovascular mortality in PsA patients only from the standpoint of classical cardiovascular risk factors. Among the possible causes of high cardiovascular morbidity and mortality in PsA patients, systemic inflammation should be singled out, the action of which not only exacerbates the influence of traditional cardiovascular risk factors, but also has a direct effect on the vascular wall, contributing to endothelial damage, increased vascular stiffness, impaired endothelial function and atherothrombosis [9].

Compared with other diseases, patients with PsA have an increased risk of developing CVD by 43% and 55% of complications. In particular, the risk of developing myocardial infarction by 68%, cerebrovascular disease by 22% and heart failure by 31%, respectively [8]. In PsA, the risk of myocardial infarction, coronary heart disease, stroke, and cardiovascular mortality is highest among patients with severe disease, early-onset psoriasis, and younger patients (aged <40 years) [10].

The activity of the inflammatory process, measured by the erythrocyte sedimentation rate (ESR) in women (1.83, p=0.02), the number of affected fingers in the form of dactylitis (1.20, p<0.001), were identified as independent predictors of cardiovascular risk in PsA [11]. Importantly, two European claim-based cohort studies described psoriasis severity as a predictor of CVD in psoriatic disease [12, 13].

Psoriatic disease is closely associated with traditional CVD risk factors in the population, such as obesity, dyslipidaemia, glucose tolerance, and hypertension [14].

Patients with PsA have a much higher risk of cardiovascular disease than those with psoriasis alone. Studies have shown that patients with PsA have a higher risk of metabolic syndrome (odds ratio [OR] 1.78 confidence interval (95% CI) 1.08–2.95], (P = 0.025) than patients

with PS. In addition, carotid intima-media thickness measured by ultrasound was greater in patients with PsA, independent of traditional CV risk factors, and this difference was correlated with duration of PsA disease, more severe skin disease, and increased inflammatory markers [16]. The data, together with the results of other prospective cohort studies [15], suggest that the degree of inflammation in PsA correlates with the severity of cardiovascular abnormalities.

The increased CVD associated with psoriatic disease may be due to endothelial cell dysfunction associated with insulin resistance. Indeed, dysfunction of endothelial cells can lead to atherosclerosis and the occurrence of cardiovascular complications such as stroke or myocardial infarction [18].

A small prospective study has also shown that serum uric acid concentration correlates with subclinical atherosclerosis as assessed by carotid intima-media wall thickness in PsA patients without clinically evident cardiovascular disease [17]. Non-steroidal anti-inflammatory drugs (NSAIDs) have also been suggested as predictors of cardiovascular disease in these patients [18].

Psoriatic disease is a chronic inflammatory condition in which both the innate and adaptive immune systems are affected, resulting in a pro-inflammatory condition. Inflammation is a key mediator that initiates and accelerates the progression of atherosclerosis, the main cause of CVD [19]. High serum levels of pro-inflammatory cytokines released in psoriatic disease, such as interleukin (IL)-17, interferon-alpha, and TNF, contribute to vasoconstriction and endothelial dysfunction, which can lead to plaque formation [20].

Conclusion: Thus, it turned out that among the classic cardiovascular risk factors in patients with psoriatic arthritis, aggravated heredity for coronary artery disease and dyslipidemia are the most common. The combination of psoriatic arthritis and arterial hypertension is associated with an increase in the stiffness of the vascular wall, damage to the endothelium with a violation of its functions. Damage to the endothelium is most pronounced in patients with high activity of arthritis, the presence of systemic manifestations of the disease. In patients with psoriatic arthritis, an increase in the stiffness of the vascular wall associated with traditional cardiovascular risk factors and arthritis activity was revealed. In patients with psoriatic arthritis, more often than in individuals without psoriasis and psoriatic arthritis, there is an increase in the thickness of the intima-media complex and subclinical atherosclerosis of the carotid arteries. An increase in the thickness of the intima-media complex in patients with psoriatic arthritis is associated not only with the action of classical risk factors, but also with the activity of systemic inflammation.

In the presence of comparable cardiovascular risk factors, the likelihood of developing coronary heart disease is higher in patients with high arthritis activity, early onset and longer duration of the disease. The degree of inflammation, the score of dactylitis, the severity of psoriasis, the duration of the disease, the level of uric acid in the blood serum and the use of NSAIDs are predictors of CVD in patients with psoriatic disease.

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Psoriatic arthritis is an inflammatory arthropathy often associated with psoriasis and several other comorbidities. The study of the role of cardiovascular risk factors and inflammation in the development of cardiovascular pathology in patients with psoriatic arthritis is an urgent interdisciplinary problem. Of interest is the presence of a relationship between the clinical manifestations of psoriatic arthritis, laboratory parameters, inflammation and changes in the cardiovascular system in patients with this arthritis.

Key words: *Psoriatic arthritis, endothelial dysfunction, psoriasis, comorbidity.*