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PSORIATIC ARTHRITIS AND HYPERURICEMIA

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Psoriatic arthritis (PsA) occurs in 13.5 - 47% of patients with psoriasis, in particular, in normal psoriasis the incidence is 6-7%, in pustular - 32%. The prevalence of psoriatic arthritis in the general population ranges from 0.01 to 0.19% depending on the geographical location (Marchuk, 2019). PsA more often occurs at a young age (15-20 years) and leads to adverse consequences in the form of temporary and permanent disability, deterioration of physical and psychological components of quality of life. The second peak of incidence is observed at the age of 55-60 years, when there are comorbidities, metabolic disorders, including hyperuricemia, which creates difficulties for proper drug treatment and requires a clear differential diagnosis.

The aim of our study was to evaluate the effect of hyperuricemia on the course of PsA and to identify related factors. The study included 16 patients with PsA and hyperuricemia. The diagnosis of PsA was established on the basis of diagnostic criteria developed by the Association of Rheumatologists and Orthopedists-Traumatologists of Ukraine (2004) on the basis of the recommendations of the Institute of Rheumatology of the Russian Academy of Medical Sciences (Badokin, 1989). The study was conducted taking into account the following aspects: demographic variables (age, sex, duration of the disease), clinical variables (affected joints, severity of psoriasis), biological factors (acute phase reagents), variables associated with treatment (nonsteroidal anti-inflammatory drugs, corticosteroids, synthetic and biological drugs that modify the disease) and comorbidities. Hyperuricemia was defined as a level of uric acid above 360 μmol/L. Statistical analysis: factors that were potentially associated with hyperuricemia were assessed using Spearman's correlation, and data were processed using the licensed program Statistica 13.0.

In total, the study included 9 (56.25%) women and 7 (43.75%) men, mean age 54±5.8 years, mean disease duration 7±1.4 years; 4 (25%) had moderate/severe psoriasis. A high percentage of patients had concomitant cardiovascular diseases: dyslipidemia 81.25%, hypertension 50%, obesity 37.5% and cardiovascular events 25%. Hyperuricemia was significantly associated with obesity, coronary heart disease, and hypertension, but there was no correlation with the severity of cutaneous psoriasis. In determining the odds ratio was found: coronary heart disease 4.95, [95% confidence intervals: 1.47; 16.67]), obesity (3.61 [1.00; 12.98]) and hypertension (1.86 [1.04; 3.32]).

Thus, hyperuricemia is common in patients with PsA, especially in patients with longer disease duration and obesity. Hyperuricaemia in PsA is more associated with metabolic syndrome than with cutaneous psoriasis, but further research is needed to identify the cause. Proper control of hyperuricemia can improve treatment and control of PsA.

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LONG-TERM USE OF PROTON PUMP INHIBITORS: WHAT IS NEW?

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Since the introduction of Omeprazole, the first proton pump inhibitor (PPI) in 1989, this class of medications has become a leader in the management of acid-related disorders. Their high efficacy and low toxicity resulted in the approval of the first OTC product in 2003, and nowadays they are in the top 10 most prescribed drugs and among the most widely sold medications in the world (World Health Organization, 2019). These same factors have also contributed to their overuse, misuse and long-term use. Over the years, there has been a growing concern over potential adverse effects associated with long-term therapy. Since 2010, the FDA has issued various safety warnings regarding the potential effects of long-term use of PPIs: risk of fractures, hypomagnesemia, Clostridium difficile–associated diarrhea, vitamin B12 deficiency, acute interstitial nephritis (AIN), and cutaneous and systemic lupus erythematosus. The results of several studies investigating the side effects of long-term PPI use were reviewed.

There was found a high prevalence of anti-ulcer drug prescription associated with a highly significant subsequent prescription of anti-allergic medications. The rate ratios for anti-allergic following gastric acid-inhibiting drug prescriptions are 1.96 (95%CI:1.95–1.97) and 3.07 (95%-CI:2.89–3.27). These findings are more prominent in women and occur in all assessed gastric acid-inhibiting substances. Rate ratios increase from 1.47 (95% CI:1.45–1.49) in subjects aged under 20, to 5.20 (95%-CI:5.15–5.25) in ones aged over 60.

Recent data has suggested a link between PPI use and dementia. Biologically, PPIs may increase the production and degradation of amyloid and bind to tau. The possibility of reduced levels of vitamin B12 and other nutrients may also play a role in the increased risk of dementia. These observational studies suggest an association, but no causal relationship has been established.

The meta-analysis showed (Hafiz R A et al., 2018) that PPI users have an increased risk of developing community-acquired enteric infection (pooled odds ratio [OR] = 4.28; 95% CI = 3.01-6.08). The strength of the association was similar for Salmonella (pooled OR = 4.84; 95% CI = 2.75-8.54; I2 = 58.7%; P = 0.064) and Campylobacter (pooled OR = 5.09; 95% CI = 3-8.64; I2 = 81%; P < 0.001) but lower for studies that combined all bacteria (pooled OR = 2.42; 95% CI = 0.96-6.14; I2 = 94.3%; P < 0.001).

Some local effects of long-term PPIs use include atrophic gastritis due to prolonged acid suppression, hypergastrinemia, chronic H. pylori infection and development of gastric polyps, that are risk factors for gastric cancer. There are a lot of doubts about PPIs association with an increased risk of developing gastric cancer. The Cheung study included a total of 63,397 individuals (Cheung KS, 2018), where 153 cases developed gastric cancer. PPI users had a hazard ratio of 2.44 (95% confidence interval [CI] 1.42-4.20), and the risk of cancer increased with the duration of PPI use. The Brusselaers study included a total of 797,067 individuals (Brusselaers N, 2017) where 2,219 cases developed gastric cancer. The standardized incidence ratio of gastric cancer among PPI users was 3.38 (95% CI 3.23-3.53), and the risk of cancer increased with the duration of PPI use. Therefore, chronic PPI use is associated with an increase in the risk of gastric cancer. This increase in risk is both dose and duration related.

Thus, proton-pump inhibitors provide important clinical benefits for many patients. They have favorable safety profile, however, observational studies have suggested an association between PPI use and some adverse reactions. Future studies are needed to fully explain the effect of chronic PPI use and to define the maximum duration of use of PPIs, where the risk of adverse reactions is minimum. In conclusion, PPI use must be associated with appropriate indications utilizing the lowest effective dose for the shortest duration possible.

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METHODS OF LASER POLIARYMETRY FOR ERYTHROCYTE MORPHOLOGY INVESTIGATION IN PATIENTS WITH COMORBID PATHOLOGY

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Changes in the rheological properties of blood are one of the most important moments in the pathogenesis of most diseases, especially in case of comorbidity.

The main task of the research was to investigate possible structural changes of erythrocytes membranes (EM) in patients with chronic heart failure (CHF) and diabetes mellitus type 2 (DM). Methods of optical physics reveal and objectify structural changes of EM, which can expand the arsenal of diagnostic methods of rheological disorders detection due to various pathological conditions. 60 patients with CHF the (I group) and 55 patients with CHF with comorbid DM (the II group) were included in the research. For objective assessment of EM functional state laser polarimetry of the red cell suspension smear was applied.

Intensity distribution of Fourier spectrum histogram of erythrocytes suspension smear had symmetrical “bell-like” appearance. Unlike this, intensity distribution of Fourier spectrum of erythrocytes suspension smear in patients of the II group was uneven, and histogram transformed into asymmetric dependence.