

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

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## **STATE OF THE CYTOKINE LINK ACCORDING TO IL-18 AND IL-10 IN PATIENTS WITH OSTEOARTHRITIS IN COMBINATION WITH CHRONIC PANCREATITIS**

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**Introduction.** Osteoarthritis is one of most world wide known damage of joints. About 60% of all arthritis is known as osteoarthritis. Approximately 20% of all gastrointestinal pathology is chronic pancreatitis. This makes this comorbidity very actual.

**The aim of the study.** To evaluate the state of the cytokine link, based on IL-18 and IL-10 indicators, in patients with chronic pancreatitis in combination with osteoarthritis, since pro-inflammatory and anti-inflammatory cytokines should balance the immune homeostasis.

**Material and methods.** 52 patients, aged from 37 to 65 years, were examined, including 38 women and 14 men. An average duration of chronic pancreatitis was 14.9 years and osteoarthritis was 8.1 years. The group of practically healthy individuals consisted of 10 people. The study of interleukin 10 and 18 was carried out by the Platinum ELISA solid-phase immunoenzyme method using the appropriate kits.

**Results.** Patients with chronic pancreatitis were dominated by exacerbation of osteoarthritis. At the same time, the clinical manifestation was characterized by pain during active and passive movements, in the morning or after significant overloading, limitation of the amplitude of movements in the joints, their deformation due to proliferative changes, which was indicative of osteoarthritis advance. Analysis of the results of IL-18 indicators showed a tendency to increase in 18 patients, the indicators were significantly increased in 34 patients (compared to the group of practically healthy people ( $p < 0.001$ )). They were correlated with indicators of malondialdehyde and CRP ( $r = 0.52$ ;  $p < 0.05$ ). Indicators of IL-10 (which is an antioxidant cytokine) in 18 patients did not exceed those in practically healthy ones, which can be considered as reflection and compensation of immune response processes. In the second group, they significantly increased in comparison with the group of practically healthy individuals ( $p < 0.001$ ). Increase in IL-18 and IL-10 indicators can simultaneously indicate the activation of the cytokine defense system. Such a reaction can be considered as aimed at compensation in the new conditions of the course of chronic systemic inflammation.

**Conclusions.** The immune system in patients with chronic pancreatitis and osteoarthritis is aimed at compensation, balance between the processes of activation of the cytokine chain and the processes of protection (according to IL-18 and IL-10 indicators), ensuring the permanence of low-grade chronic inflammation.

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## **COVID-19 AND CHRONIC KIDNEY DISEASE**

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**Introduction.** The recent outbreak of COVID-19 is spreading rapidly on a global scale. To date, there are no effective treatments for COVID-19, raising concerns about the impact of risk factors, such as clinical course, pathophysiological parameters, and the presence of comorbidities, on disease severity and treatment outcome in patients with COVID-19.

**The aim** of the study was to conduct a meta-analysis to examine the relationship between existing chronic kidney disease (CKD) and disease severity in patients with COVID-19.

**Material and methods.** Analysis of the published clinical data available.

**Results.** We identified several key clinical characteristics associated with increased disease severity and mortality among patients with COVID-19. In particular, pre-existing chronic conditions such as hypertension, cardiovascular disease, chronic kidney disease and diabetes are strongly associated with an increased risk of severe COVID-19. Chronic kidney disease and acute kidney injury are strongly correlated with increased disease severity in patients with COVID-19.