# EXPEDIENCY OF MEASURING PROCALCITONIN FOR THE MANAGEMENT OF PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA

***A. V. Demchuk, A. S. Serediuk***

*Abstract*

Community-acquired pneumonia (CAP) is one of the most common diseases in modern world and remains a significant challenge for healthcare system. In studies, procalcitonin (PCT) has demonstrated a good sensitivity and specificity in distinguishing bacterial inflammation from non-bacterial causes. Many randomized controlled trials (RCTs) have used a PCT level >0.25 ng/ml as an indicator of possible bacterial infection in CAP, prompting the initiation or continuation of antimicrobial therapy.

The 2023 ERS/ESICM/ESCMID/ALAT guidelines for the management of severe CAP recommend using PCT in conjunction with clinical assessment to determine the optimal timing for discontinuing antimicrobial therapy. The use of PCT can also reduce the duration of antibiotic therapy without negative impact on treatment outcomes, thereby lowering the overall cost of care in both hospital and intensive care unit (ICU) settings.

PCT levels in the blood remain consistent in children, pregnant women, and the elderly. However, PCT testing has known limitations, including the possibility of false-negative or false-positive results.

During the COVID-19 pandemic, there were obtained data in different trials on elevated PCT levels in patients with severe and complicated SARS-CoV-2.

The potential of PCT as a biomarker is further enhanced when combined with other tests, such as lung ultrasound for outpatients and PCR testing (respiratory panel) for inpatients. These capabilities enable informed decisions regarding the initiation, continuation, or discontinuation of antibiotic therapy, particularly in the context of global antimicrobial resistance and limited healthcare resources.

***Key words:*** procalcitonin, community-acquired pneumonia, antibiotic therapy.

**Ukr. Pulmonol. J. 2024;32(4):11–20.**

*Anna V. Demchuk*
*National Pirogov Memorial Medical University, Vinnytsya*
*MScD, professor of the Propedeutic to Internal Medicine Department,*
*56, Pirogov str., Vinnytsya, 21018, Ukraine*
*Phone: +38 050 445 48 75, avdemchuk@yahoo.com*