C-REACTIV PROTEIN AND NEUTROPHIL - LYMPHOCYTE RATION AS POTENTIAL BIOMARKERS OF INFLAMATION IN PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION

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Atrial fibrillation (AF) is the most common sustained arrhythmia and significantly contributes to morbidity and mortality from cardiovascular disease. The prevalence of FA in the general population is estimated to 1-2 %, and is increasing with age for two times to every decade after the age of 50 and reaches to 10 % of persons older than 80 years [1]. The pathophysiology of atrial fibrillation is multifactorial but it is still incomplete studied [2]. Recent studies showed that inflammation has a key role in the initiation, maintenance, and recurrence of AF [3]. However, the effectiveness of anti-inflammatory treatment in FA remains disputed because the direct link follows to be clarified. In addition, there are two critical unanswered questions: (1) whether inflammation associated with AF is a cause or consequence of arrhythmia and (2) whether inflammation reflects the underlying disease or FA itself [4]. Inflammation might be involved in the prothrombotic state during AF [5]. Inflammatory cells such as monocytes, macrophages, and lymphocytes produce cytokines and chemokines and can trigger and sustain thrombosis in AF [6]. The results of Reactive Protein C (CRP) have been correlated with established clinical stroke-risk stratification scores such as CHADS2 and Stroke Prevention in Atrial Fibrillation. The highest CRP levels were found to patients who had a moderate- to-high risk of stroke [7]. It has been demonstrated that neutrophil-lymphocyte ratio (RNL) is also a marker of inflammation. Thus, it would be called RNL a simple prognostic biomarker, low-price, available and effective for predicting risk factors for thrombosis or bleeding in patients with non-valvular atrial fibrillation (NVAF) [8]. Here, we will examine current evidence for the role of inflammation and inflammatory biomarkers in risk management and treatment of FA.

The purpose of the study. Analysis of speciality literature sources regarding to the importance of inflammation biomarkers for risk of cardioembolic or bleeding to patients with non-valvular atrial fibrillation.

Materials and Methods. Within the study were analyzed the literature sources regarding to the role of potential biomarkers of the inflammatory process in the diagnosis and treatment of patients with non-valvular atrial fibrillation, using the MEDLINE, PUB Med, HINARY database.

Results. In the literature sources were analyzed results of several research that studied markers of the neutrophil-lymphocyte ratio, Reactive Protein C (CRP) and their correlation in the inflammatory process to patients with non-valvular Atrial Fibrillation. Recent studies also demonstrated that NLR was associated with inflammation and thrombogenicity [9]. This parameter has been deeply studied in cardiovascular diseases and more specifically to patients with non-valvular atrial fibrillation with warfarin anticoagulation therapy. It was also shown that the high preoperative RNL was compared with the increased incidence of atrial fibrillation in coronary artery bypass grafting patients after surgery. It has been highlighted that to patients with diabetes the level of RNL was significantly higher in an AF group than an AF-free group. The authors called it an independent risk factor for AF. The level of RNL was increased in 16% of patients studied with non-valvular atrial fibrillation who suffer stroke, transient ischemic attacks and systemic thromboembolism and in 14% of patients with bleeding [10]. Other researchers explored whether the CRP-related incidence of FA was modified...
by components of the system C3 and C4, following the results for a period of 4 years. Patients with high CRP and high complement levels had a significantly higher risk of AF than those with normal CRP and low complement levels; contrary, absent a high complement level, high CRP levels were not significantly associated with AF [11].

**Conclusion:** In conclusion, we can mention the importance of inflammatory markers RNL and CRP, which will help us to identify patients with significant risk of thrombosis and hemorrhage in patients with non-valvular atrial fibrillation and correlation with CHA2DS2-VASc and HAS-BLED risk score. The wide use of markers, by simple and inexpensive methods in laboratory diagnosis, allows to assess the severity and prognosis of the evolution of the disease.

**References**


**Key words:** Non-valvular atrial fibrillation, C-reactive protein (CRP), neutrophil-lymphocyte ratio (RNL).

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**COMPARATIVE CLINICAL AND ANGIOGRAPHIC EVALUATION OF THE LONG-TERM RESULTS OF CORONARY STENTING IN PATIENTS WITH ISCHEMIC HEART DISEASE**

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Ischemic heart disease (IHD) – remains one of the most urgent and priority problem of world and domestic health. Despite the last ten-years data of the publication on the success in the prevention and treatment of coronary heart disease, cardiovascular