

Evaluation of hematological parameters in patients with familial Mediterranean fever compared to healthy individuals

Abstract

Background: Familial Mediterranean fever is an auto-inflammatory disease with autosomal recessive inheritance, which is characterized by acute and recurrent episodes of fever, serous membrane inflammation, arthritis and rash. between attacks, most patients are asymptomatic, but they may have a persistent increase in inflammatory markers, subclinical inflammation can continue during the attack-free period in affected patients and lead to amyloidosis.

Aim: Our aim in this study is to show whether neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio and red blood cell distribution width can be used as inflammatory markers in familial Mediterranean fever attack or helpful in the diagnosis of subclinical inflammation at silent phase of the disease.

Materials and methods: This study was conducted among 92 FMF patients under 16 years of age in the attack phase of the disease and 92 patients in the non-attack period and healthy control group in the Rheumatology Clinic of BouAli Children Hospital, Ardabil. Leukocyte count, percentage of neutrophils and lymphocytes, platelet count, RDW, ESR and qualitative CRP were collected from the CBC diff test of patients and control groups and recorded in questionnaire forms.

Results: There was a significant difference between RDW values of patients in attack phase compared to patients without attack and controls (p value<0.001 for both). Also, RDW values were significantly higher in patients without attack than controls (p value=0.013), which indicates subclinical inflammation in patients without FMF attack. neutrophil to lymphocyte ratio and platelets to lymphocyte ratio among FMF patients in attack phase were significantly higher than non-attack group and controls (p value<0.05), but NLR and PLR in non-attack compared to control group did not show statistically significant difference (p=0.29 and p=0.449 respectively). Also, there was a positive correlation between NLR and leukocytes (r=0.652, p<0.001) and RDW (r=0.310, p=0.003) among attack group.

Conclusion: We concluded, since the mean values of RDW in FMF attack-free patients were significantly higher than the healthy control group, it can be used as an indicator for subclinical inflammation in asymptomatic FMF patients. NLR and PLR can be used as a marker of systemic inflammation in FMF patients during an attack, because they are affordable, available and calculable, but they cannot demonstrate subclinical inflammation in asymptomatic patients.

Key words: familial Mediterranean fever, amyloidosis, subclinical inflammation, neutrophil to lymphocyte ratio, platelet to lymphocyte ratio, red blood cell distribution width.