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ABSTRACT

TITLE: The utility of the neutrophil-lymphocyte ratio and platelet-lymphocyte ratio in spondyloarthritis associated anterior uveitis

ABSTRACT BODY:

Purpose: Studies show anterior uveitis manifests in 21 to 33% of spondyloarthritidies (SpA). Previous research suggests that the neutrophil lymphocyte ratio (NLR) and platelet lymphocyte ratio (PLR) in peripheral blood are biomarkers for sacroiliitis and disease activity (Al-Osami, MH et al. 2020). We supplemented data from a prospective registry with retrospective chart review to assess the role of the NLR and PLR as potential biomarkers for anterior uveitis in patients with SpA.

Methods: Veterans enrolled in the Program to Understand Long-term Outcomes of Spondyloarthritis registry with a diagnosis of uveitis were included. The date of uveitis flare, anterior chamber cell grade, frequency of topical steroid use or use of oral steroid or peri-ocular steroid injection were collected. Those with scleritis were excluded. Episodes of uveitis were classified into either the acute/recurrent uveitis group or chronic/persistent uveitis group based on the Standardization of Uveitis Nomenclature classification criteria. Demographic data, type of SpA, and absolute neutrophil, platelet, and lymphocyte counts within 60 days before and after the uveitis flare were collected. Amongst those with acute/recurrent uveitis, associations between NLR, PLR, and the anterior chamber cell grade, steroid use frequency, and erythrocyte sedimentation rate (ESR) were calculated using linear regression. Neutrophil, platelet, and lymphocyte counts from patients without SpA were also collected as a control group and an unpaired t-test performed to compare mean NLR and PLR.

Results: Thirty three patients with SpA had acute/recurrent uveitis and relevant laboratory data. There were no associations between NLR or PLR and steroid drop frequency or anterior chamber cell grade. There was a statistically significant correlation between steroid drop frequency and ESR ($p = 0.027$). The mean NLR was 2.28 in the acute/recurrent uveitis group and 2.88 in the control group, which was not statistically significant. The mean PLR was 113.4 in the acute/recurrent uveitis group and 185.2 in the control group, which was statistically significant ($p < 0.005$).

Conclusions: While NLR and PLR may be associated with SpA and some ocular inflammatory diseases, they are not viable biomarkers of acute/recurrent uveitis in SpA patients.