

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

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Kim EJ, BA¹; Sen R, MD MS^{1,2}; Palestine A ,MD^{1,2}; Cheng E, BA²; Kerr G, MD⁶;Reimold A, MD⁷; Walsh J, MD⁵; Chang E, MD⁴ ;Caplan L, MD PHD^{1,2}

1. Ophthalmology, University of Colorado Anschutz Medical Campus, Aurora, CO, United States. 2. Rheumatology, VA Eastern Colorado Health Care System, Aurora, CO, United States. 3. Rheumatology, University of Colorado Anschutz Medical Campus, Aurora, CO, United States. 4. Rheumatology, Veterans Affairs in Phoenix, AZ, United States. 5. VA Salt Lake City Health Care System, Salt Lake City, UT, United States. 6. Rheumatology, Washington DC VA Medical Center, Washington, DC, United States. 7. Rheumatology, VA North Texas Health Care System, Dallas, TX, United States.



School of Medicine

UNIVERSITY OF COLORADO | ANSCHUTZ MEDICAL CAMPUS

Emmeline.kim@cuanschutz.edu



Study Aim	Results										Conclusion
Evaluate the association of the neutrophil-lymphocyte ratio (NLR) and the platelet lymphocyte ratio (PLR) with other measures of uveitis disease activity	Demographics (n = 45)		Simple linear regression							- No statistically significant correlation was found between AC cell and NLR, PLR and between steroid drop frequency and NLR, PLR - There is a significant correlation between steroid drop frequency and ESR; likely an indicator of severity but not validated in this study - NLR and PLR are not viable biomarkers of acute and recurrent uveitis in SpA patients	
	Mean age (years)	51.9	Dependent variable	Independent variable	Coefficient	P value	95% CI lower	95% CI upper	R ²		
	White, %	66.7									
	HLA_B27 (+), %	80.0									
	Male, %	100.0									
Current smoker, %	26.7	AC cell grade	NLR (n = 33)	-0.053	0.706	-0.342	0.235	0.005			
Former smoker, %	33.3		ESR (n = 45)	-0.007	0.289	-0.198	0.006	0.026			
Never smoker, %	40.0		Simple linear regression								
Background	Steroid drop frequency scale		Dependent variable	Independent variable	Coefficient	P value	95% CI lower	95% CI upper	R ²		
	None	0									
	As needed	0.5									
	Q24H	1									
	Q12H	2									
Methods	Q8H	3	Steroid drop frequency	PLR (n = 33)	0.008	0.845	-0.730	0.089	0.001		
	Q6H	4		NLR (n = 33)	-0.219	0.853	-2.61	2.17	0.001		
	Q5H	5		ESR (n = 45)	0.115	0.027	0.014	0.217	0.109		
	Q4H	6		Unpaired t-test							
	Patients enrolled in Program to Understand Long Term Outcomes of Spondyloarthritis (PULSAR) registry at VA Hospitals with a diagnosis of uveitis and spondyloarthritis	Q3H	8	NLR	Group	Mean	Std deviation	95% CI lower	95% CI upper	P value	
Q2H		12	Acute/recurrent uveitis			2.28 (n = 33)	1.41	1.77	2.77	0.0653	
Q1H		24	Control (no SpA)		2.88 (n = 190)	1.83	2.68	3.10			
Subtenon injection		25	PLR		Group	Mean	Std deviation	95% CI lower	95% CI upper	P value	
Oral		26		Acute/recurrent uveitis		113.4 (n = 33)	41.6	98.7	128	0.0002	
Obtain anterior chamber (AC) cell grade (scale 0-4) and steroid drop frequency at time of uveitis flare	CBC and ESR collected +/- 6 months from flare	Determined relationship between NLR, PLR, ESR, and AC cell, steroid drop frequency using regression techniques in STATA (v13) statistical package	Control (no SpA)	185.2 (n = 159)	108	168	202				
			Future Directions								
			- Increase sample size/validate results in other populations - Obtain lab data at onset of or during an acute flare - Compare NLR and PLR between acute/recurrent uveitis (at onset) and chronic uveitis								
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