

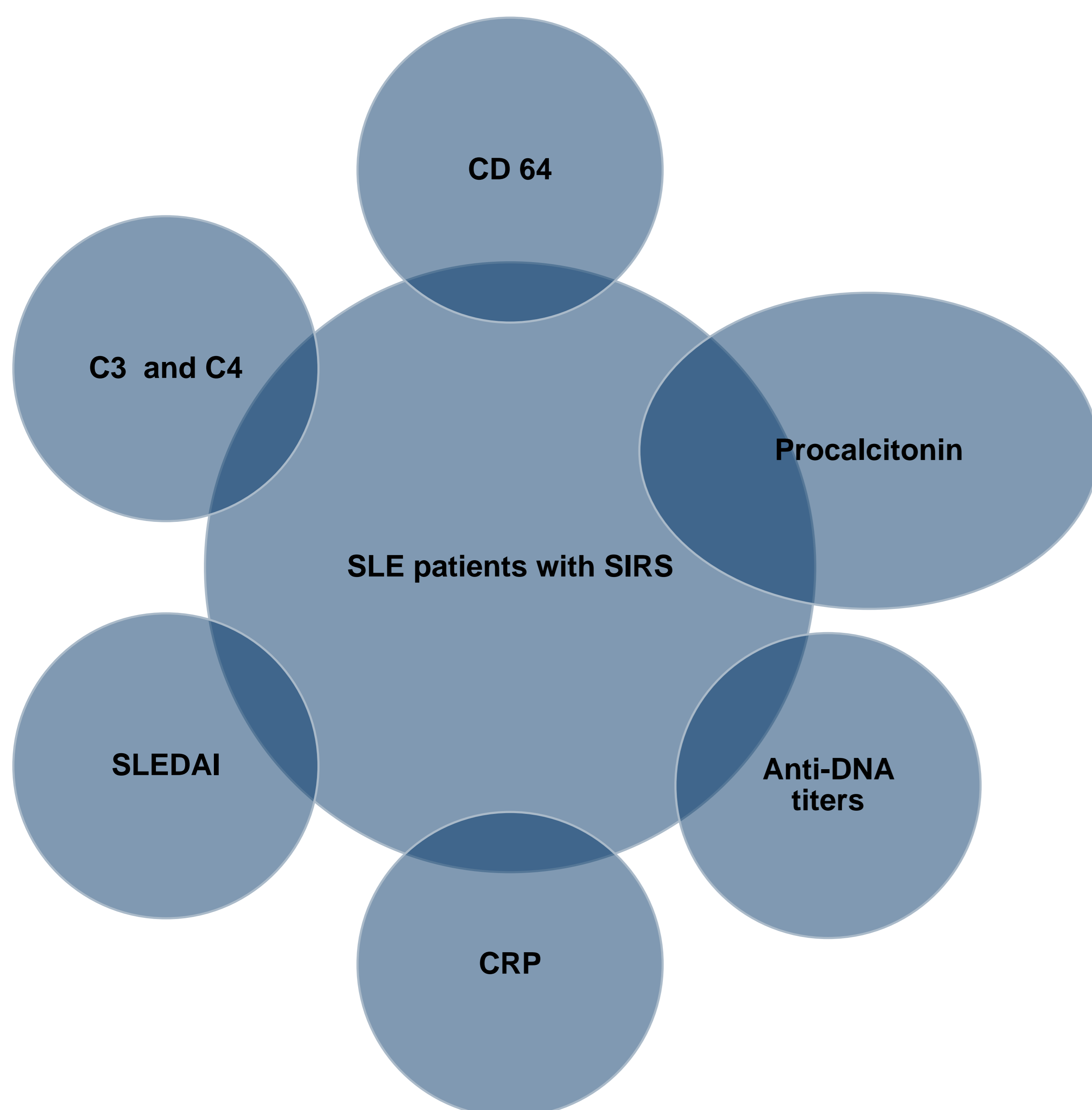
Biomarkers to discriminate infection vs. activity in patients with systemic lupus erythematosus

Background and aims

Differentiation of Systemic Lupus Erythematosus (SLE) activity and infection in a febrile patient become difficult, since initial clinical presentation may be similar. Several biological markers (including procalcitonin and CRP) have been evaluated, with discordant results (1). The aim of this study is to evaluate the utility of biomarkers to differentiate infection vs. activity in SLE patients admitted with systemic inflammatory response (SIRS).

Methods

Prospective study, including 23 patients with SLE (ACR criteria 1997) and SIRS (International conference 2001) admitted to the ER and ICU



References

1. Ospina FE, Echeverri A, Zambrano D, Suso J-P, Martinez-Blanco J, Canas CA, et al. Distinguishing infections vs flares in patients with systemic lupus erythematosus. Rheumatology (Oxford) 2016. doi:10.1093/rheumatology/kew340

Results

Twenty patients were female (86%), mean age 32.7 years. An infectious disease was confirmed in 10 patients (8 bacterial including urinary tract infection, and pneumonia; 1 viral infection by Chikungunya virus and 1 fungal).

Parameter	Infection	Not Infection	P value
CD64	3.2 +/- 2	1.39 +/- 1.5	0.05
Procalcitonin	8.6 (0.9-28.5)	0.33 (0.13+0.16)	0.005

N=23	Infection	Not Infection	
CD64 and procalcitonin			Sensitivity /specificity (%)
Positive	10	0	100/100
Negative	0	13	100/100

All the markers for SLE activity, including anti-DNA titers ($p=0.08$), C3 ($p=0.55$), C4 ($p=0.87$) and SLEDAI ($p=0.06$) were not different between patients with and without infection. PCR was also not able to differentiate these two conditions ($p=0.68$).

Conclusions

High neutrophil CD64 expression and procalcitonin levels are useful to differentiate infections from activity in SLE patients. If both markers are positive, an infectious disease was demonstrated in all cases.