CRP as a marker for myocardial infarction and for damage accrual in systemic lupus erythematosus patients: results from a single-center longitudinal study.

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Background

CRP is a marker of inflammation and is also a known cardiovascular risk factor. Patients with systemic lupus erythematosus (SLE) have moderately elevated CRP levels and develop organ damage , that includes an increased rate of cardiovascular events.

Objective

The aim of this study is to assess the role of CRP in damage accrual in SLE patients over time.

Methods

The Tromsø Lupus cohort is a longitudinal population-based study of all SLE patients from the two most northern counties in Norway. Patients fulfilled the American College of Rheumatology (ACR) classification criteria. At each visit, CRP, disease activity (SLEDAI) and SLICC/ACR Damage index (SDI) were recorded. In this study, each component of the SDI was analyzed individually. First time myocardial infarction as well as first and second time cerebrovascular accidents were also analyzed separately. Both mean and median CRP and SLEDAI were calculated for each patient.

Results

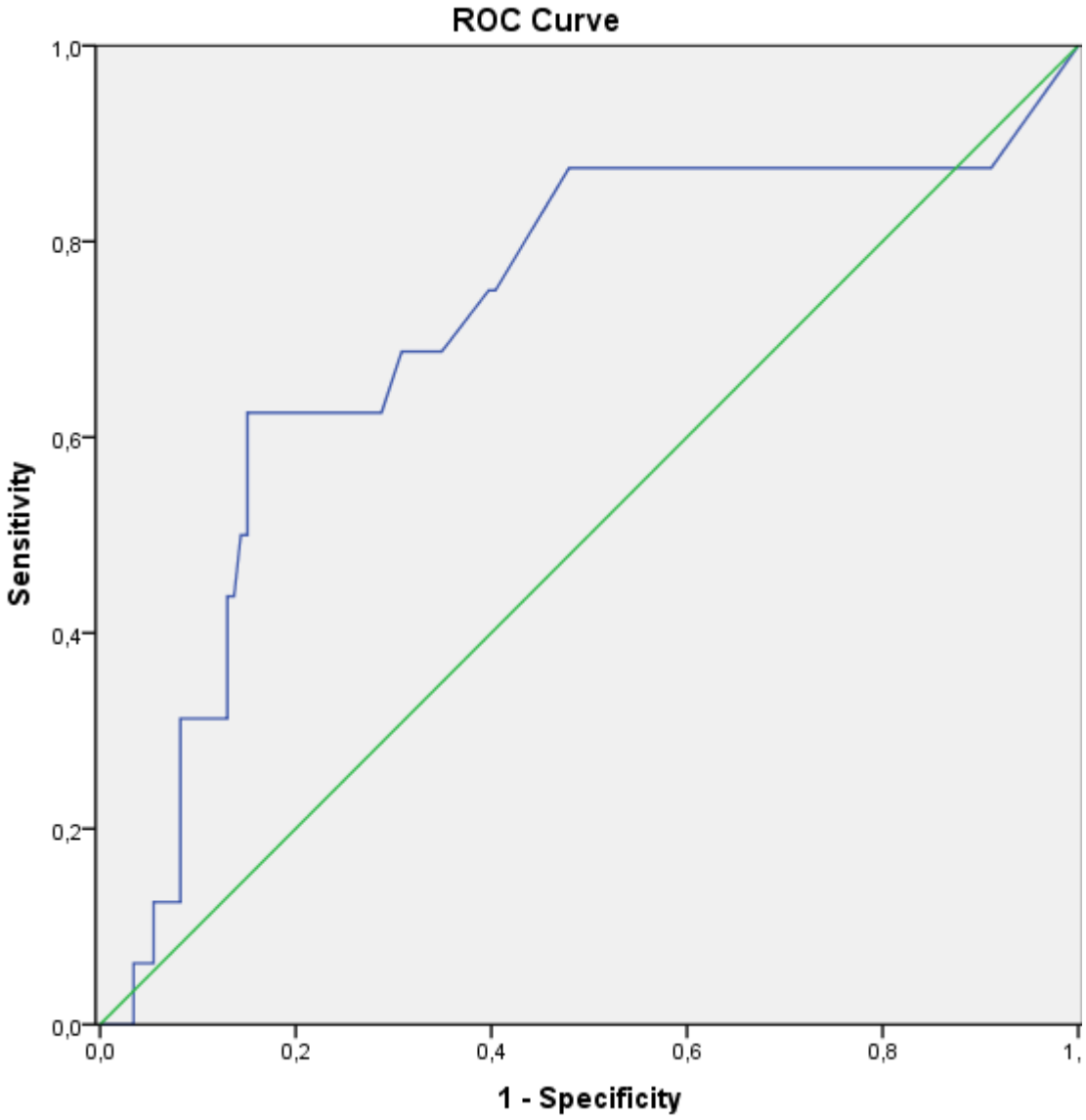
224 patients were followed for a median of 66 months, mean of 87,3 (+/- 88,8) months. Median and mean CRP are respectively 4,0 mg/l and 9,9 (+/- 15,8). The median and mean SLEDAI are respectively 2,6 and 3,8. Median CRP was not correlated with median SLEDAI (p=0.646). Median and mean CRP were higher in patients with first time myocardial infarction (p=0.004) but were unrelated with cerebrovascular accidents (p=0.760). Median CRP can be used as a risk factor for myocardial infarction as demonstrated with the area under the receiver operating characteristic curve (AUC=0.719 (0.573-0.864; p=0,004)) (figure). The specificity is over 80% with a median CRP of 10,75 mg/l or higher.

Median and mean CRP were higher in patients with increased overall cardiovascular, pulmonary damages as well as malignancy (respectively p=0.014, p=0,027, p=0,020), had borderline association with peripheral vascular damage and was inversely correlated with gastrointestinal damage (p=0.031).

Conclusion

Median CRP can be used to stratify the risk for myocardial infarction in SLE patients.

Median CRP is a better marker than SLEDAI for damage accrual in SLE patients, possibly because SLEDAI score tends to decrease while damage accrual increases over time.



Figure

Receiver operating curve for median CRP as a marker for myocardial infarction risk.