**Co-Localization of C-Reactive Protein and Complement in Human Hearts during Acute Myocardial Infarction**


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C-reactive protein (CRP) plasma levels correlate with clinical outcome in patients with myocardial ischemia and infarction. We hypothesized that these correlations might reflect active participation of CRP in the local inflammatory response ensuing in the jeopardized myocardium, since upon binding to a ligand CRP is able to activate the classical pathway of complement. In addition, complement activation has been shown to occur locally in human infarcted myocardium. To verify our hypothesis, we investigated immunohistochemical localization of CRP, in relation to deposition of complement, in tissue specimens of infarcted and normal heart tissues obtained from 17 patients, who had died following acute myocardial infarction (AMI). CRP was found to be deposited only in infarcted regions and not in normal appearing areas of human myocardium, being co-localized with depositions of C4 and C3-activation fragments of the complement system. Deposition of CRP and complement in infarcted myocardium appeared to be time-dependent since it was found in all infarctions except for one of very short duration (<12 hours) and two of long duration (>1 year).

**Conclusions:** CRP may localize in infarcted human heart tissue. As CRP was found co-localized with complement, we suggest that this acute phase protein promotes local complement activation, and hence tissue damage in AMI.