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Title: C-reactive protein in pulmonary tuberculosis-correlation with extent and severity of the disease

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Body: Background: Pulmonary tuberculosis (PT) presents a broad clinical spectrum. C-reactive protein (CRP) has been identified as a possible marker of severity in this disease. Aims: To assess the role of CRP in patients admitted for PT and its relation with radiological extent, bacterial load, hospital stay and mortality. Methods: We retrospectively evaluated 201 adult patients admitted in a tertiary hospital for PT without HIV infection (2007-2011). Demographic, clinical, analytical and radiological data as well as hospital evolution were studied. Patients were categorized according to radiological extent (National Tuberculosis Association classification) and initial bacterial sputum load (ATS criteria). For statistical analysis, Spearman correlation coefficient, analysis of variance ANOVA and Bonferroni test were used, with SPSS18 support. Results: Most were male (74,3%), mean age 53,5 yrs. Sputum smear on admission was negative in 39,8%; in these, CRP was significantly lower (mean: 82.1 mg/L) than in smear-positive patients (mean: 114.5 mg/L), $p=0.003$. However, CRP did not increase with higher bacterial load ($p=0.113$). CRP values increased significantly with more extensive disease on chest X-ray (Est.I: 61.7mg/L; Est.II: 109,9mg/L; Est.III: 170.8mg/L), $p=0.000$. A positive correlation between CRP value and hospital mortality was found ($r=0.141$, $p=0.027$) but not with duration of hospitalization ($p=0.065$). Conclusions: CRP may play an important role as an indicator of the extent and severity of PT and showed prognostic value for short term mortality of the disease. Studies including ambulatory patients may help defining its role in identifying those who need to escalate health care.