C-reactive Protein Levels and Decrease of Albumin Levels in Hospitalized Elderly Patients with Community-acquired Pneumonia

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AIM: To obtain: (1) the correlation between initial CRP level on admission with the decrease of albumin level during hospitalization, (2) the mean difference in initial CRP level between the groups of patients with and without decrease of albumin level during hospitalization, and (3) the risk difference of decreasing albumin level in patients with high CRP levels on the admission compared to whom with low CRP level on the admission, in hospitalized elderly patients with CAP. METHODS: A prospective cohort study were conducted on 23 hospitalized elderly patients with CAP. Subjects with diseases and conditions that could interfere with CRP and albumin level besides pneumonia infection were excluded. The patient's CRP level was measured upon the initiation of the study, while the patient's albumin level was measured on the first and fifth day of hospitalization to observe changes that took place during 5 days of hospitalization. Pearson's correlation test, independent t-test, and chi-square test were used to answer the objectives of the study. RESULTS: We found that there were negative correlation between the initial CRP level and the percentage of albumin level decrease during 5 days of hospitalization ($r=-0.442$, $p=0.035$) and significance difference in the mean initial CRP level between patients with and without decreasing albumin level (mean difference 99.69 mg/L, 95%CI 13.25 to 186.13 mg/L; $P=0.026$). The risk difference of decreasing albumin level during hospitalization between patients with high and low initial CRP levels did not attained statistical significance (RR 2.12, 95%CI 0.26 to 29.07; $p=0.621$). CONCLUSION: In hospitalized elderly patients with community-acquired pneumonia with high initial CRP levels tend to experience a decrease in albumin level during hospitalization.