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Title: Thrombocytosis is a marker of poor outcome in community-acquired pneumonia

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Body: Background: Thrombocytosis, often considered a marker of normal inflammatory reaction of infections, has recently been associated with increased mortality in community-acquired pneumonia (CAP). Methods: We evaluated 2,423 hospitalized patients with CAP. We excluded patients with immunosuppression, neoplasm, tuberculosis or haematological disease. The aim was to assess characteristics and outcomes of patients with CAP and thrombocytosis (platelet count $\geq 4 \times 10^5/\text{mm}^3$), compared with thrombocytopenia (platelet count $< 10^5/\text{mm}^3$) and normal platelet count. Results: Fifty-three patients (2%) presented thrombocytopenia, 204 (8%) thrombocytosis and 2,166 (90%) a normal platelet count. Patients with thrombocytosis were younger ($p < 0.001$), while those with thrombocytopenia more frequently had chronic heart and liver disease ($p < 0.001$ both). Patients with thrombocytosis more frequently presented respiratory complications such as complicated pleural effusion/empyema ($p < 0.001$), whereas those with thrombocytopenia more often presented severe sepsis ($p < 0.001$), septic shock ($p = 0.009$), need for invasive mechanical ventilation ($p < 0.001$) and ICU admission ($p = 0.011$). Patients with thrombocytosis and thrombocytopenia had longer hospital stay ($p = 0.004$), higher 30-day mortality ($p = 0.001$) and readmission rate ($p = 0.011$) than those with a normal platelet count. Multivariate analysis confirmed a significant association between thrombocytosis and 30-day mortality (OR 2.588 95% CI 1.502-4.460 $p = 0.001$). Conclusions: Thrombocytosis in CAP is associated with poor outcome, complicated pleural effusion/empyema. Therefore thrombocytosis in CAP should encourage to rule out respiratory complications and could be considered for severity evaluation.

