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Title: The role of procoagulant activity in patients with community acquired pneumonia

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Body: Community acquired pneumonia (CAP) is still one of the most important causes of morbidity in adults. In severe cases, parapneumonic effusions or empyema may develop. In these patients, the increased vascular permeability, mediated by several cytokines, allows migration of inflammatory cells, an increased fluid accumulation and bacterial invasion into pleural space. The activation of the fibrinolytic system produce the D-dimer and follow by increased other procoagulant markers like thrombin anti thrombin (TAT), fragment 1.2. Moreover, serum levels of AT-III, D-D and CRP at admission appear to be useful biomarkers for assessing the severity of CAP. Our study included patients with CAP. Blood D-dimer, TAT and Fragment 1,2 levels were measured by Enzyme Linked Fluorescent assay 24 and 48 hours after admission. The results were correlated with the clinical, laboratory, and severity scoring of pneumonia (PORT and APACHI II). A total of 59 patients with pleural effusion were included in the study. Eleven patients (18%) developed pleural effusion. Only D-dimer levels increased 48 hours following admission compared to the 24 hours levels (1939±1234 vs 1812±1592 ng/ml). Fragment 1,2 and TAT levels decreased after 48 hours. D-dimer at 24 hours was correlated with the age, platelet counts and PORT score. F 1,2 and TAT at 24 hours were correlated with recent of neutrophils. PT at 24 hours was correlated with WBC count. After 48 hours, D-dimer was correlated only with age. F1,2 and TAT had no correlations with clinical parameters after 48 hours. The 24 hours D-dimer predicts severity of CAP. Other coagulation markers and serial monitoring of blood coagulation markers have a limited role in predicting CAP.