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Title: Comparison of serum osteopontin levels in patients with exacerbations and stable chronic obstructive pulmonary disease

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Body: Background: Osteopontin is reconized as an important adhesive bone matrix and a key cytokine involved in immune cell recruitment, tissue repair and remodeling. Then serum levels of osteopontin have not been evaluated in patients with chronic obstructive pulmonary disease(COPD). The aim of this study is to evaluate and compare the serum levels of osteopontin in patients with exacerbations and stable COPD Methods: Serum samples were obtained from 22 healthy control subjects, 18 stable COPD patients, and 15 COPD with exacerbation patients. Serum concentrations of osteopontin were measured by the ELISA metnod. Results: Serum levels of osteopontin were higher in patients with exacerbation than with stable COPD and in healthy control(62.4 ± 51.9 ng/mL, 36.9 ± 11.1 ng/mL, 30.0 ± 11.0 ng/mL, $p=0.003$). Osteopontin levels were significantly decreased after clinical improvement than during exacerbation (45 ± 52.1 ng/mL, 62.4 ± 51.9 ng/mL, $p=0.160$). Also osteopontin levels showed a significantly negative correlation with forced expiration volume in one second(FEV1%) in healthy controls and stable COPD ($r= -0.389$, $p=0.013$). C-reactive protein was positively correlated with osteopontin levels in patients with COPD exacerbations($r=0.775$, $p=0.002$). Conclusions: The serum levels of osteopontin were increased in patients with COPD exacerbations and tended to decrease after clinical improvement. These results suggest the possible role of osteopontin as a biomarker of COPD with exacerbation.