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Title: Osteopontin levels in sputum supernatant and serum of patients with lung cancer: Does coexistent COPD make the difference?

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Body: Introduction: Osteopontin (OPN) is a multifunctional cytokine that has been involved in tumor progression and angiogenesis of lung cancer. Lung cancer (LC) and COPD are both smoking-related diseases and may share common pathogenetic mechanisms; however the role of OPN in the pathogenesis of both diseases, has not been elucidated yet. Objective: We aimed to determine the levels of OPN in sputum supernatants and serum of patients with LC with and without COPD and to evaluate its performance as a prognostic biomarker in these patients. Methods: Seventy three consecutive patients with LC (43 with COPD) were included in the study. All subjects underwent lung function tests, sputum induction for OPN, VEGF, TGF- β 1 and IL-8 and serum collection for OPN measurement; All patients were optimally treated for LC and COPD according to their attending physicians and were followed for one year or until death. Results: Serum OPN was significantly higher in patients with concomitant LC and COPD compared to LC alone (median IQR 47[28-96] vs 37 [27-60], pg/ml, p<0.05). No other significant differences were observed between the two groups. In ROC analysis, serum OPN presented a modest performance for the prediction of one-year survival in patients with LC and COPD [AUC 0.698]. Increased serum OPN levels [>39pg/ml] in patients with LC and coexistent COPD were associated with a higher risk of death in one-year follow up [log-rank test, p=0.002]. Conclusions: Serum OPN is higher in the presence of COPD in patients with LC. Serum OPN is a good predictor of survival in patients with LC and COPD but could not predict one year survival in patients with LC without COPD.