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Title: Cut-off value of D-dimer in diagnosis of pulmonary embolism in patients with chronic obstructive lung disease

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Body: Introduction: The measurement of D-dimer in patients suspected from pulmonary embolism (PE) prevents further diagnostic procedures. D-dimer may increase in patients with COPD without PE as a result of systemic inflammation. The prevalence of PE increases in patients with COPD. Aim was to determine cut-off value of D-dimer in diagnosis of PE in patients with COPD. Method: COPD patients who had thrombus on CT angiography were retrospectively enrolled. D-dimer levels which were measured on admission to emergency department were noted. COPD patients who were in stable period were included as control subjects. Their D-dimer measurements were done on admission to outpatient clinic. D-dimer levels of patients and control subjects were compared. Receiver operating curve analysis was done to define cut-off value of D-dimer in diagnosis of PE in COPD patients. Results: Thirty-five patients, 25 control subjects were included. D-dimer levels of COPD patients with PE were significantly higher than control subjects (p=0.001). The cut-off level of D-dimer for diagnosis of PE in COPD patients was found 0.552 pg/ml (sensitivity:100%, spesificity: 66.7%).

Table 1: Demographic properties, D-dimer levels of patients and control subjects

	COPD with PE	COPD without PE	p
N(%) Gender	35 (100)	25 (100)	>0.05
Male	30 (85)	22 (88)	
Female	5 (15)	3 (12)	
Age(years) mean± SD	74.7±10.7	75.8±11.17	>0.05
D-dimer (pg /ml) mean± SD	2.07±1.88	0.72±0.79	0.001

Conclusion: The study showed that cut-off value of D-dimer in diagnosis of PE may be higher than normal in patients with COPD. Larger studies are necessary to determine exact cut-off value to prevent unnecessary

further diagnostic procedures in these patients.