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Title: COPD patients with more severe GOLD stages have higher serum cystatin C levels

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Body: INTRODUCTION: Creatinine is widely used as a biomarker of kidney function but may be inaccurate at detecting mild renal impairment since creatinine levels may vary with muscle mass and protein intake. Advanced COPD is characterized by wasting of skeletal muscles and imbalances in protein metabolism. Cystatin C may be used as a muscle independent biomarker of kidney function. Recently, it has been studied as a predictor of cardiovascular diseases and emphysema development. AIM: The aim of this study was to evaluate the relationships between COPD severity and serum cystatin C levels in prospective study. MATERIALS AND METHODS: One center longitudinal prospective study in COPD patients was designed. Consecutive COPD patients treated in respiratory department and healthy health care workers were studied. Serum levels of cystatin C, creatinine and urea were measured and glomerular filtration rate (GFR) was assessed. RESULTS: 98 COPD patients and 29 non-COPD healthy controls were analyzed. GOLD stages and biochemistry parameters are shown in the table (* p<0.05) Results are means ±SD

Patients/Controls	Number of pts	Age	Creatinine	GFR	Cystatin C	Urea
Healthy controls	29	60,4±7,7	0,90±0,15	97,2±28,6	0,962±0,207*	35,1±6,2
COPD stage I	12	62,6±7,0	0,84±0,16	97,5±28,0	0,989±0,124*	33,0±7,1
COPD stage II	34	65,7±7,2	0,95±0,25	81,7±31,8	1,021±0,222*	34,7±7,7*
COPD stage III	13	66,6±9,9	0,95±0,22	77,7±34,5	1,048±0,209*	40,1±9,1
COPD stage IV	39	67,0±10,1*	0,85±0,23	80,7±57,4	1,234±0,371*	43,4±18,9*
All	127	64,8±8,7	0,89±0,22	85,3±41,2	1,073±0,286	38,0±12,9

CONCLUSIONS: COPD patients with more severe GOLD stages have higher serum cystatin C levels but not creatinine or calculated creatinine clearance levels.