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Title: Bronchial mucosal dendritic cells and VEGF expression in COPD patients

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Body: Introduction: Dendritic cells (DCs) have a pivotal role in the onset and regulation of innate and adaptive immune responses. A decreased number of mature DCs may occur in the airways of COPD patients, thereby reducing their immune response. Moreover, DCs can affect vascularization process in different physiopathological conditions. There are no data concerning the relationship between DCs and vascular endothelial growth factor (VEGF) in COPD patients. Objectives: We evaluated the relationship between the expression of VEGF and the density of DCs in the bronchial mucosa of COPD patients. Methods: Twenty patients with moderate to severe COPD (age 76±10 yr, 3 F; FEV1 51±9%, FEV1⁄VC 48±12%) were studied. Eight healthy subjects represented a control group (CS). Bronchial biopsies were evaluated by immunohistochemistry and presence of DCs was investigated by using antibody directed against CD207, to mark immature DCs, and against CD83, to mark mature DCs. Results: Comparisons are summarized in the table.

	COPD	CS	p value
VEGF+ cells (n⁄mm²)	121±24	82±9	0,001
CD207+ cells (n⁄mm²)	49±11	41±11	0,103
CD83+ cells (n⁄mm²)	1,13±0,48	1,57±0,39	0,034

table1

Data are presented as mean±SD. In all COPD patients, CD207+ cells were inversely related to FEV1 (r=-0.52, p<0.05) and CD83+ cells were inversely related to VEGF expression (r=-0.45, p<0.05). Conclusions: Our results show that COPD airways were associated with a decrease in mature DCs and that these cells were inversely related to VEGF expression. Additionally, immature DCs were significantly related

to airflow obstruction. We speculate that the DCs-VEGF interplay may play a key role both in angiogenesis and in the immune response in COPD patients.