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Title: Evaluation of dendritic cell population in chronic obstructive pulmonary disease

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Body: Chronic obstructive pulmonary disease (COPD) is characterized by an increase in CD8+ T cells within the central and peripheral airways suggesting an antigen-specific adaptive immune response. It usually requires the assistance of antigen-presenting cells (APCs), like dendritic cells (DCs), that recognize, process, and present the processed antigen to naive lymphocytes. In human airway tissue three different pulmonary DC subsets have been described: type 1 myeloid DCs (BDCA1), type 2 myeloid DCs (BDCA3), and plasmacytoid DCs (BDCA2). The objective of this study was to assess dendritic cells in the airway tissue in patients with COPD. In this case-control study, a total of 31 lung biopsies were obtained from a group of patients undergoing major lung resection because of suspected neoplasm. There were 16 COPD patients and 15 controls. Flow cytometry method was used to quantify the number and subsets of DCs in lung parenchymal. There was no significant difference in baseline characteristics between the two groups. We observed a lower proportion of BDCA1 as well as BDCA2 cells in COPD patients than in control patients (10% and 18% respectively). The number of BDCA3 cells was 37% lower in the control group. We found a higher concentration of mature DCs identified by CD40/CD80/CD83/CD86 expression in the COPD group. The results of this study support the role of dendritic cells in the systemic inflammation in COPD. Pulmonary DCs migration in COPD seems to be accompanied by DCs maturation.