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Title: Increased levels of soluble intercellular adhesion molecule 1 in active smokers

Dr. Elena 20152 Arellano-Orden marellano-ibis@us.es [1], Dr. Ana 20153 Montes-Worboys amontes-ibis@us.es [12], Dr. Carmen 20154 Calero-Acuña mamencalero1@hotmail.com MD [12], Dr. Eduardo 20155 Marquez-Martin eduardo.marquez.sspa@juntadeandalucia.es MD [1], Dr. Pilar 20156 Cejudo-Ramos mariap.cejudo.sspa@juntadeandalucia.es MD [1], Dr. Francisco 20159 Ortega-Ruiz francisco.ortega.sspa@juntadeandalucia.es MD [12] and Dr. Jose Luis 20165 Lopez-Campos josel.lopezcampos.sspa@juntadeandalucia.es MD [12]. [1] Unidad Medico Quirurgica de Enfermedades Respiratorias, Hospital Virgen del Rocio, Instituto Biomedicina de Sevilla (IBIS), Sevilla, Spain and [2] CIBER de Enfermedades Respiratorias, CIBERES, Madrid, Spain .

Body: Objectives. Serum intercellular adhesion molecule-1 (sICAM-1) is known to be a smoking-associated inflammatory marker but data on the relationship between active smoking and sICAM-1 are lacking for COPD. In the present study we collected a group of COPD patients and non-COPD smokers and measured the sICAM-1 in order to provide information on its expression related to active smoking. Methods. This report is based on a cross sectional analysis of a case-control study, in which 141 COPD cases and 56 controls (non-COPD smokers) were consecutively recruited. Clinical information from all subjects was registered using a designed questionnaire that included direct questions on co-morbid conditions, respiratory symptoms and tobacco history. Peripheral blood concentration of sICAM-1, together with interleukin-8 (CXCL8), C-reactive protein (CRP), and serum amyloid A (SAA) were determined in all cases. Results. There were 89 ex-smokers and 108 active smokers of them in the sample. CRP and SAA (log-scale) were elevated in patients with COPD as compared to control subjects ($p = 0.005$ for CRP and $p = 0.024$ for AAS). SAA and sICAM-1 were associated with active smoking in the bivariate analysis. ICAM-1 retained this association when corrected by age, gender, the presence of COPD, inhaled corticosteroids use, body mass index, and FEV1 as covariates. Conclusion. The present study confirms an association between sICAM-1 levels and active smoking in a group of COPD and non-COPD smokers. This association is specific of ICAM, not affecting other COPD-related biomarkers.