FINAL ID: 0185.1

Triana Blanco-Pintos[1, 2], Nora Arias-Bujanda[1, 2], Alba Regueira-Iglesias[1, 2], Manuela Alonso-Sampedro[3], Marta Relvas[4], Maria Mercedes González-Peteiro[1, 2], Carlos Balsa-Castro[1, 2], Inmaculada Tomás[1, 2]
[1]Oral Sciences Research Group, School of Medicine and Dentistry, Universidade de Santiago de Compostela, Santiago de Compostela, Spain, [2]Health Research Institute Foundation of Santiago (FIDIS), Santiago de Compostela, Spain, [3]Internal Medicine and Clinical Epidemiology, Complejo Hospitalario Universitario, Santiago de Compostela, Spain, [4]Instituto Universitário de Ciências da Saúde-Norte, Centro de Investigação de Ciências da Saúde, Gandra, Portugal

TITLE: Salivary Cytokine-based Predictive Models to Estimate the Probability of Periodontitis Differentiating by Smoking Status

ABSTRACT BODY:

Objectives: This study aimed to obtain salivary cytokine-based models to predict the probability of chronic periodontitis, differentiating by smoking habits.

Methods: A sample of 152 participants was recruited, including 72 periodontally healthy controls and 80 subjects affected by chronic periodontitis. Twelve mediators were measured in salivary samples using the Luminex 200™ instrument: GMCSF, IFNgamma, IL1beta, IL2, IL4, IL5, IL6, IL10, IL12p70, IL13, IL17A and TNFalpha. Cytokinebased models were obtained using multivariate binary logistic regression, distinguishing between non-smokers and smokers. The area under the curve (AUC) and numerous classification measures were obtained.

Results: IL1beta was the only cytokine predictor of those analysed present in the one- and two-variable models, both in non-smokers and smokers. As a single biomarker, IL1beta showed AUC values of 0.757 for non-smokers and 0.687 for smokers. In both smoking conditions (non-smokers and smokers), in the two-variable models, IL1 beta was associated with IL13 (AUC= 0.780 and 0.708), TNFalpha (AUC= 0.769 and 0.766) and IFNgamma (AUC=0.763 and 0.711).

Conclusions: IL1beta in saliva shows an acceptable ability to discriminate periodontitis patients from periodontally healthy individuals, increasing this ability when associated with other salivary cytokines. The smoking status reduces the discriminatory potential of salivary IL1beta, alone or in combination with other cytokines, for the diagnosis of chronic periodontitis.