AUTOIMMUNE CONNECTIVE TISSUE DISEASES

LUPUS ERYTHEMATOSUS WITH SALIVARY GLAND INVOLVEMENT: MASS SPECTROMETRY DETECTION OF SALIVARY FIBRINOGEN AS A PREDICTIVE FACTOR FOR THROMBI FORMATION

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Introduction: Lupus erythematosus (LE) is an autoimmune collagenopathy with multisystemic involvement, including salivary gland (SG) damage. Clinically, SG impairment is present by a mouth dryness sensation, called xerostomia and histopathologically by glandular stroma inflammatory and degenerative changes - connective tissue and blood vessels. These vascular features are mainly characterized by the thickness of the vascular basement membrane, perivascular inflammatory infiltrate and the presence of thrombi.

Aims: Thus, the present study aimed to investigate whether it is possible to detect specific vascular findings in minor SG of xerostomic LE patients by salivary proteomic quantitative analysis.

Material and Methods: Thirty cases of LE diagnosed according to the American College of Rheumatology criteria were included in the study; Minor salivary gland (MSG) biopsy was performed and unstimulated saliva was collected. The samples were grouped according to their LE subset. The histopathological aspects of all cases were examined using a conventional optical microscope and the mass spectrometry proteomic analysis was performed using the softwares MaxQuant and Perseus.

Results: Regarding the detected proteins involved in the blood coagulation, it was possible to highlight three chains that compose the fibrinogen: fibrinogen alpha chain (FGA), fibrinogen beta chain (FGB) and fibrinogen gamma chain (FGG). All these proteins were detected in the subacute LE group, in which thrombi formation was present in 100% of the specimens. In the systemic LE group, 56.25% showed thrombi and only the FGG protein was noted, however it was 1.89 less concentrate than subacute LE. Finally, in the discoid LE group, with 50% of the cases with thrombi, none of these proteins were noticed.

Conclusion: Fibrinogen is not the unique protein involved in blood coagulation and thrombi

formation, but based on our results it is possible to suggest that these proteins, mainly FGA and FGB may play an important role in this occurrence.