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THE VALUE OF MINOR SALIVARY GLANDS BIOPSY FOR THE DIAGNOSTIC EVALUATION OF SJOGREN'S SYNDROME

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BACKGROUND

Histopathological analysis of minor salivary glands (MSG) is essential for diagnosis, stratification, and prognosis of Sjögren's syndrome (SS). Additionally, other diseases that cause salivary hypofunction or glandular enlargement can be excluded by tissue assessment. Minor salivary glands biopsy is less invasive, safer, and shows comparable performance over to parotid and lacrimal glands. The focus score (FS), included in the ACR/EULAR 2016 classification criteria for SS, is calculated by the ratio of the number of foci (aggregates of at least 50 mononuclear cells) per 4 mm² of area. The ideal sample should have a minimum of 8 mm².

MATERIAL AND METHODS

Medical records and pathology reports of patients submitted to MSG biopsy from November 2017 to December 2019 were reviewed. Multiple regression model was used to identify variables associated with a positive biopsy.

RESULTS

One hundred fifty patients were included. Age at time of biopsy varied between 10–77 (mean 51.4) years. Seventy-nine percent reported xerophthalmia and 70% xerostomia; 59% had ocular staining score (OSS) of ≥ 5 or a Schirmer's test result of ≤ 5 mm/5 min. Seventy-one percent of patients presented a positive antinuclear antibody (ANA), 44% a positive anti-SSA/Ro, 19% a positive anti-SSB/La and 34% a positive rheumatoid factor. Forty-seven percent had hypergammaglobulinemia and 29% had low complement. Thirty-six percent were diagnosed with SS and 32% met ACR/EULAR 2016 criteria. Mean area of samples obtained from biopsies was 21 mm². Only 7% of samples presented an area smaller than 8 mm². Fifty-seven percent of the patients were using an immunosuppressant or corticosteroid at the time of biopsy; 33% presented FS ≥ 1 . Minor salivary glands biopsy was decisive in 62.5% of the cases: it confirmed the diagnosis in 39% and it excluded in 61%. A strong association between a positive ANA (odds ratio, OR = 15.86; $p < 0.0001$) and a positive anti-SSA/Ro (OR = 8.46; $p < 0.0001$) with the presence of a FS ≥ 1 was observed. No association was observed between any of the clinical features, other laboratory tests or use of medications at the time of biopsy and a positive biopsy.

Figure 1.

Figure 2

Figure 3

Figure 4

CONCLUSION

Minor salivary glands biopsy is a simple and effective procedure to aid the diagnosis decision in SS. In this study, about 2/3 of the samples were useful to define the diagnosis. We found a positive biopsy in less than 5% of suspected patients, whose ANA test was negative. This could be used for biopsy indication. In ANA negative patients, MSG biopsy should be performed only if high clinical suspicion is present.

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