

α -Synuclein aggregates in labial salivary glands of idiopathic rapid eye movement sleep behavior disorder

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Abstract

Study Objectives

To assess whether biopsy of the labial minor salivary glands safely detects phosphorylated α -synuclein (pAS) deposits in idiopathic rapid eye movement sleep behavior disorder (IRBD), a condition that precedes the cardinal manifestations of synuclein disorders associated with Lewy-type pathology, namely, Parkinson's disease (PD) and dementia with Lewy bodies (DLB).

Methods

In a prospective study, labial biopsy of the minor salivary glands was performed in 62 patients with IRBD, 13 patients with PD, and 10 patients with DLB who were initially diagnosed with IRBD, and in 33 controls. Aggregates of pAS were assessed by immunohistochemistry using antiserine 129-pAS antibody and the conformation-specific 5G4 antibody.

Results

Sufficient biopsy material containing glandular parenchyma was obtained in all participants. Deposits of pAS were found in 31 of 62 (50%) participants with IRBD, 7 of 13 (54%) with PD, 5 of 10 (50%) with DLB, and in one of the 33 (3%) controls. Participants with IRBD, PD, and DLB with and without pAS immunoreactivity did not differ in demographic and clinical features. Adverse events were lip bruising (9.2%), swelling (6.6%), pain (2.4%), and numbness (1.7%) which were mild and transitory and did not require treatment.

Conclusions

Labial minor salivary glands biopsy proved to be a safe and useful procedure to identify pAS in participants with IRBD, and in participants with PD and DLB initially diagnosed with IRBD. The biopsy provides direct histopathological evidence that IRBD represents a synucleinopathy and that could be useful for histological confirmation of synuclein pathology in PD and DLB.

[\$\alpha\$ -synuclein](#), [idiopathic rapid eye movement sleep behavior disorder](#), [labial minor salivary glands](#), [Parkinson's disease](#), [dementia with Lewy bodies](#)

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