Multinucleate giant cells in sublabial salivary gland tissue in Sjögren’s Syndrome

A diagnostic pitfall

P.C.M. de Wilde 1, P.J. Slootweg 1, R.J. Hené 2, J.P.A. Baak 3, L. Kater 2

1 Department of Oral Pathology, State University, Sorbonnelaan 16, 3584 CA Utrecht
2 Division of Immunopathology, University Hospital, Catharijnesingel 101, 3511 GV Utrecht
3 Department of Pathology, Stichting Samenwerking Delftse Ziekenhuizen (SSDZ),
 R. de Graefweg 7, 2625 AD Delft, The Netherlands

Summary. The presence of multinucleate giant cells in the sublabial salivary gland tissue in Sjögren’s syndrome is an unusual phenomenon which can give rise to differential diagnostic problems. We found in 4 cases of 55 patients with Sjögren’s syndrome multinucleate giant cells. In 2 of these 4 patients epimyoepithelial islands were also present. The combination of both multinucleate giant cells as epimyoepithelial islands can mimic the histological picture of a non-caseating granulomatous disease.

To discriminate between an epimyoepithelial island and an epithelioid granuloma the immunoperoxidase technique with antibodies directed against muramidase appeared an useful tool. The epithelioid cells contain muramidase whereas the cells in the epimyoepithelial island do not contain this enzyme.

Thus, multinucleate giant cells are a rare phenomenon in Sjögren’s syndrome, therefore restricting its diagnostic significance. When they occur in Sjögren’s syndrome staining for muramidase can be of help to avoid a false positive diagnosis of diseases in which non-caseating granulomatous inflammation occur, such as in sarcoidosis.

Key words: Multinucleate giant cells – Sjögren’s syndrome – Epimyoepithelial islands – Sarcoidosis – Immunoperoxidase technique – Muramidase

Introduction

The term sicca syndrome comprises the clinical picture of keratoconjunctivitis sicca (KCS) and xerostomia independent of underlying disease. Several clinicopathological entities such as Sjögren’s syndrome, sarcoidosis, amyloidosis, haemochromatosis and lipomatosis can give origin to sicca syndrome (Hené et al. 1979).

Offprint request to: P.C.M. de Wilde at the above adress
The term Sjögren’s syndrome (SS) is used to describe a chronic autoimmune disease characterized by lymphocytic infiltration and destruction of salivary and lacrimal gland tissue resulting in a sicca syndrome (Fischbach et al. 1980). Moutsopoulos et al. (1980) introduced the classification of primary and secondary SS. Primary SS is defined as SS without other concomitant disease, while the term secondary SS is used in association of SS with a connective tissue disease. An enumeration of the concomitant connective tissue diseases can be find in the literature (Fischbach et al. 1980; Moutsopoulos et al. 1980; Manthorpe et al. 1981). In literature the term sicca syndrome is often considered synonymous with primary SS. We have suggested to reserve the term sicca syndrome to describe the clinical picture (Hené et al. 1983).

Chisholm and Mason (1968) described the significance of the sublabial salivary gland biopsy as a valuable aid in the diagnosis of SS. Other investigations have confirmed these findings and detailed descriptions of the histopathological alterations in the sublabial salivary glands can be found in literature (Davies et al. 1973, Greenspan et al. 1974; Tarpley et al. 1974; Daniels et al. 1975; Friedman et al. 1979; Chomette et al. 1981).

The presence of multinucleate giant cells (MNGC) in sublabial salivary glands in SS may form a diagnostic pitfall. This may distract the unwary observer from considering the possibility of SS, by suggesting a diagnosis of sarcoidosis, cheilitis granulomatosa or even tuberculosis. Indeed we have been faced with this problem, in which a patient had been unnecessary subjected to extensive investigative procedures.

This diagnostic error may also be due to the scarcity of reports on MNGC in salivary gland tissue in SS. For example, apart from Akin et al. (1975) none of the above cited detailed histopathological descriptions mentioned this phenomenon.

Therefore we studied the occurrence of MNGC in the sublabial salivary gland biopsies from patients with SS. In addition the usefulness of muramidase (= lysozym) presence was investigated as a discriminator between epithelioid granulomas and epimyoepithelial islands to prevent confusion of a non-caseating granulomatous disease and SS.

Material and methods

Patients. Our study included 291 sublabial salivary gland biopsies performed for diagnostic purposes from patients suffering from sicca syndrome. Confirming to the criteria formulated in recent literature we selected 55 patients with a primary or secondary SS (Fischbach et al. 1980; Fox et al. 1982; Shillitoe et al. 1982). Shortly these criteria are:

1. A local lymphocytic sialadenitis of grade 4 according to Chisholm and Mason (1968), which implies a focusscore of greater than 1 focus per 4 mm². A focus is defined as an aggregate of 50 or more lymphocytes and histiocytes, usually with a few plasma cells placed peripherally (Waterhouse and Doniach 1966).

2. The presence of KCS by a complete ophthalmological evaluation, that includes the slitlamp biomicroscopic appearance after staining with both Rose-Bengal and fluorescein of the cornea and conjunctivae, a decreased tear make up time, reduced tear production as measured by the Schirmer test (Manthorpe et al. 1981). In evaluation of KCS we always use the lysozyme activity test; mostly the Schirmer test was also employed (Van Bijsterveld 1969).