Lipomatous Pleomorphic Adenoma in the Palatine Gland

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Lipomatous pleomorphic adenoma is an unusual subtype of adenoma with a lipomatous stromal component. Although there are a few reports about lipomatous pleomorphic adenoma in the parotid gland, we report an extremely rare case of lipomatous pleomorphic adenoma in the palatine gland of a 33-year-old female. Histologically, approximately 80% of the tumor tissue was fatty tissue containing univacuolar adipocytes. The pleomorphic epithelial elements consisted of duct-like cells forming small lumina and also consisted of spindle-shaped myoepithelial cells.

Key words: lipomatous pleomorphic adenoma, palatine gland, adipocyte

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Introduction

Pleomorphic adenoma is the most common neoplasm of the salivary glands (1). Extensive lipomatous involvement of the stroma is a rare finding in pleomorphic adenoma, and only a few such cases have been reported in the literature (2-7). These all arose in parotid glands, and lipomatous changes are often observed in normal parotid glands of adults as they age. However, there is little fatty tissue in palatine glands, so lipomatous pleomorphic adenomas arising in palatine glands are extremely rare. To the best of our knowledge, this is the first such case report in the world

Case report

A-33-year old female patient noticed a painless swelling in the right side of the hard palate and was admitted to the National Mito Hospital. The lesion was resected under the clinical diagnosis of a benign tumor, and the specimen was sent to the Department of Clinical Pathophysiology at the Tokyo Dental College for pathological diagnosis. The patient had never experienced any history of trauma in that area. The lesion, which was 3 × 2 cm in size, was covered with normal mucosa and was surrounded by connective tissue (Fig. 1). The cut surface of the resected lesion was yellowish. After the specimen was fixed with 10% formalin, paraffin sections were prepared for light microscopy using routine procedures.

Pathologically, the consistent histopathological feature was an encapsulated mass of epithelial and modified myoepithelial elements intermingled with duct-like structures. Approximately 80% of the tumor tissue was fatty tissue with univacuolar adipocytes surrounding epithelial elements (Figs. 2a and 2b).

Discussion

Although pleomorphic adenoma is the most common form of salivary gland tumor (8), extensive lipomatous involvement of the stroma is a rare finding in that kind of adenoma. There have been only a few reports of lipomatous pleomorphic adenoma (4-7), and all of these cases were from the parotid gland. Histological observation of our case is not so different from the observations of cases arising in the parotid gland. However, our case is extremely rare because it arose from the palatine gland and since only a little fat tissue could be observed in the palatal area. Although the case reported by Leroy *et al.* was in a 47-year-old man (6), that reported by Seifert *et al.* was in a 36-year-old woman (4), that reported by Korkmaz *et al.* was in a 74-year-old male (7), and those reported by Skalova *et al.* were in a 73-year-old female, a 57-year-old female, a 48-year-old female and a 55-year-old male (5), the present case involves a comparatively younger woman. The significance of the extensive lipomatous metaplasia in pleomorphic adenoma lies primarily

Fig. 1: Clinical photograph shows a mass covered with normal mucosa in right palate.

Fig. 2: Hematoxylin-eosin staining of the lesion. a: loupe finding, b: light microscopical finding. Extensive adipocytes involvement surrounding the epithelial elements of the pleomorphic adenoma.

in the differential diagnosis. From a histopathological point of view, a correct diagnosis is not difficult, provided that the islets of typical ductal and myxochondroid structures are found. However, problems may arise when a fine needle aspiration specimen reveals only adipose cells, and the tumor thus may be misdiagnosed as a lipoma. A false cytologic diagnosis may be further supported by the clinical finding of a soft elastic mass which is common to both lipomas and pleomorphic adenomas with extensive lipometaplasia (5). Skalova *et al.* demonstrated a direct metaplastic transition of the myoepithelial cells to adipocytes, and also demonstrated the existence of transitional cells with the immunophenotypic and ultrastructural features both of myoepithelial cells and adipocytes. Although we have no information about whether adipocytes around the lesion were involved in the pleomorphic adenoma or in the metaplastic transformation of those cells in this case, Korkmaz *et al.* suggested that the metaplastic transformation of myoepithelial cells to adipocytes and the entrapment of fat tissue are two possible mechanisms involved in pleomorphic adenoma (7), and Ng and Ma supported the suggestion of metaplastic transformation (2).

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