A Granular Cell Tumor of the Buccal Mucosa

—A Case Report—

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Summary: In the oral region, granular cell tumors often occur in the tongue, but rarely in the buccal mucosa. A case of a granular cell tumor in the right buccal mucosa of a 74 year-old female is described. An elastic-hard solid mass about 1 cm in diameter was palpated under the right buccal mucosa. It was well-defined from the proximal tissues and adhered to part of the buccal mucosa. As a result of a biopsy, the diagnosis of a granular cell tumor was made. The tumor was resected together with the surrounding tissues under local anesthesia. Histopathological examination revealed large tumor cells with eosinophilic, PAS-positive fine granules under the hyperplastic epithelium. The granular cells stained negatively with PTAH, but positively with S-100 protein. Electron microscopic observations revealed a number of lysosomes of various sizes and densities within the cytoplasm of the tumor cells.

Key words: granular cell tumor—buccal mucosa—histological examination—case report—oral cavity

Introduction

Granular cell tumors (GCT) often occur in the tongue, but rarely in other oral regions. In this paper a case of GCT in the buccal mucosa is reported.

Case Report

A 74 year-old female visited the Kurume University Clinic with a chief complaint of a mass in the right buccal mucosa. The patient had noted a small finger-tip sized mass in the right mucosa for about ten years, but neglected it because of the absence of subjective symptoms, such as pain. When the patient recently visited her local dentist to receive treatment for decayed teeth, she was advised to receive a complete examination and was referred to the clinic. As an extraoral finding, a small finger-tip sized well-defined elastic-hard mass was palpated in the right buccal region. As an intraoral finding, the color of the right buccal mucosa was normal. The mass was a circular nodule measuring 10 mm × 10 mm and the mucosa around it was yellowish-white in color. The tumor was elastic firm and an induration was palpated within the 14 × 16 × 10 mm range (Fig. 1). Since a tumor in the salivary gland was suspected clinically, a biopsy was performed. As a result, a diagnosis of GCT was made. Under local anesthe-
sia the tumor was resected together with the surrounding tissues as a mass. The postoperative course has been uneventful and no recurrence has occurred for about four years after the operation. The resected tumor was nearly oval in shape and measured $16 \times 14 \times 10$ mm. It was elastic and slightly hard. The cut surface was milk white in color and solid (Figs 2 and 3).

**Histopathological findings:** Staining with hematoxylin and eosin revealed oval and polygonal large tumor cells under the hyperplastic epithelium. The nuclei were small and localized, and the cytoplasm was filled with eosinophilic fine granules (Figs 4 and 5). These cytoplasmic granules were stained positively with PAS and S-100 protein, but negatively with PTAH. The tumor had no capsule and extended into the muscle layer of the surrounding tissues.

**Transmission electron microscopic findings:** The tumor cells were large and varied...
Discussion

The granular cell tumor (GCT) occurs in soft tissues. In the whole body, it often occurs in and under the skin. In the region of the oral cavity, it has been reported to occur in the tongue, buccal mucosa, oral floor, palate, lower lip, and other tissues. (Worsaae et al. 1979; Chaudhry et al. 1984; Stewart et al. 1988; Miettinen et al. 1989; Mirchandani et al. 1989; Nakamura et al. 1989; Mese et al. 1991; Shigematsu et al. 1991; Matsuyama et al. 1992; Mori et al. 1992). Mori et al. (1992) described the locations of GCT in 49 patients and noted that it occurred in the tongue, buccal mucosa, oral floor, palate, and lower lip in 38 (about 78%), four, three, two, and one patient, respectively. Only a few reports have been presented concerning GCT in the buccal mucosa, as occurred in the present case. (Worsaae et al. 1979; Nakamura et al. 1989; Matsuyama et al. 1992). Only five patients have been definitely diagnosed as having GCT (tongue: three, gingiva: one, and the present case) by histopathological examination at the Kurume University Clinic for 15 years. One of them had congenital epulis. (Okina et al. 1991). GCT occurs in every age group from newborns to elderly persons. However, the incidence in adults is particularly high. The number of GCT patients over 60 years of age is as small as two (including the present case). Furthermore, it has been reported that the incidence was not sex-related, but this disease has also been reported to occur more frequently in females with a ratio of about 2:1. Since mass formation is the only subjective symptom and no characteristic clinical symptoms are induced by this disease, it is diagnosed on the basis of histopathological findings. Theories, such as myogenic, histiocytic, and fibroblastic, have been advanced to explain the histogenesis of this disease. Based on the
results of an immunohistochemical study and the observation under a transmission electron microscope, attention in recent years has been oriented to the neurogenic theory (Chaudhry et al. 1984; Miettinen et al. 1984; Stewart et al. 1988; Mirchandani et al. 1989; Nakamura et al. 1989). In the present case, large tumor cells containing eosinophilic fine granules stained positively with PAS, and S-100 protein was grown in the cytoplasm. When observed under an electron microscope, cytoplasmic granules had various densities and assumed a lysosomal structure. GCT is usually treated by surgical resection and the prognosis is generally uneventful. (Worsaae et al. 1979; Mirchandani et al. 1989). However, if the tumor has no capsule, extended resection including adjacent tissues is said to be necessary to prevent tumor infiltration and growth into such tissues. The postoperative course of the present case has been uneventful for four years. GCT is considered a true tumor by some researchers on the basis of the elucidation of the mechanism by which it is induced. In the oral region, however, this disease often occurs in areas which tend to receive chronic mechanical stimulation, such as the tongue, buccal mucosa, and gingiva. Therefore, it may not be a true tumor, but a lesion based on a reactive growth, degeneration, or metabolic abnormality (Mese et al. 1991). Since the tumor occurred in the buccal mucosa in the present case, the possibility that the tumor was a reactive lesion can not be ruled out.

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References


