

Benign cartilaginous tumor of the gingiva

A case report

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Abstract. Benign cartilaginous tumors of the intraoral soft tissues are rare and are typically seen in the tongue, buccal mucosa, or soft palate. They comprise a diverse group of lesions that are usually defined as cartilaginous choristomas or chondromas. The case reported was located on the palatal maxillary gingiva of the first premolar of a 56-year-old white woman. It appeared as a small firm tumor covered by normal mucosa, with the underlying bone intact on radiographic examination. Histologic examination of the excised lesion revealed a circumscribed mass of cartilaginous tissue with occasional cells presenting atypical nuclear features. Two years after initial presentation, the patient is free of recurrence.

Key words: chondroma; choristoma; gingival neoplasms.

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Benign cartilaginous tumors of the intraoral soft tissues, usually characterized as cartilaginous choristomas^{2,6} or chondromas⁷, are rare. The tongue, especially the lateral border or the dorsum and the anterior third, is most commonly involved^{2,6}, although a few cases have been seen in the buccal mucosa and soft palate². Complete excision is considered to be curative, as no recurrence has been reported². This report describes a benign cartilaginous tumor with focal nuclear pleomorphism, which presented on the gingiva.

Case report

A 56-year-old white woman was examined by one of the authors (GL) for a painless lump on the maxillary gingiva, of 1 month's duration. There was no history of trauma or inflammation at this site.

Examination showed a hemispheric tumor on the gingiva palatal to the right maxillary first premolar (Fig. 1). The lesion was 5 mm in maximum diameter, was covered by normal mucosa, and was firm and tender. Radiographically, there was no evidence of bone involvement or calcification. Examination of



Fig. 1. Intraoral photograph of tumor (arrows) on palatal gingiva of right maxillary first premolar.

the rest of the mucosa revealed no other abnormalities.

The tumor was completely excised, and submitted for histologic examination. During operation, the underlying bone appeared to be intact. Postoperative healing was uneventful, and 2 years after initial presentation the patient is free of recurrence.

Microscopic examination showed a circumscribed and lobulated connective tissue mass resembling hyaline cartilage, surrounded by compressed collagen bundles (Fig. 2). It consisted mainly of round or oval cells with one or two nuclei and amphophilic cytoplasm interspersed in a homogeneous, basophilic ground substance. Many individual cells were lying in discrete lacunae. Central areas were fibrotic and hypocellular, while spindle-shaped cells in a myxoid stroma were also seen. Large, irregular, and hyperchromatic nuclei were occasionally noted (Fig. 3), but no mitotic figures were seen. The tumor stroma was poorly vascular and stained faintly with periodic acid-Schiff, deeply with Alcian blue (pH 1.0 and 2.5), and metachromatically with toluidine blue (pH 7.0); it also showed many fine reticular fibers. Some lacunae were focally surrounded by an Alcian blue-positive rim. There were no inflammatory cells, mast cells, calcifications, or ossifications. The overlying squamous epithelium was intact. The final diagnosis was benign cartilaginous tumor.

Discussion

Pathologic findings of the present case are similar to the recorded descriptions of extraoral soft-tissue chondromas³ and purely chondromatous benign tumors of the intraoral soft tissues, usually characterized as chondromas⁷ or cartilaginous choristomas^{2,6}.

Origins from heterotopic cartilage rests⁶ or from multipotential mesenchymal cells² have been suggested. More recently, lingual chondroma has been compared to benign endobronchial chondroma, and a common neoplastic origin has been proposed⁷. Any relationship of intraoral chondromas to the soft-tissue or extraskeletal chondromas, which are almost exclusively located in the distal extremities³, is not established.

Cartilage can also be found in other oral lesions. For example, cartilage has been described in flabby ridges under ill-fitting dentures³, in peripheral fibromas of the gingiva¹, and in lipomas⁴. Chondrogenesis in these lesions is considered to be metaplastic in nature, resulting from the proliferation of ectopic or pluripotential mesenchymal cells – usually after proper stimulation^{1,4}. In the present case, irritation at the site



Fig. 2. Circumscribed mass surrounded by compressed collagen bundles (HE, $\times 25$).

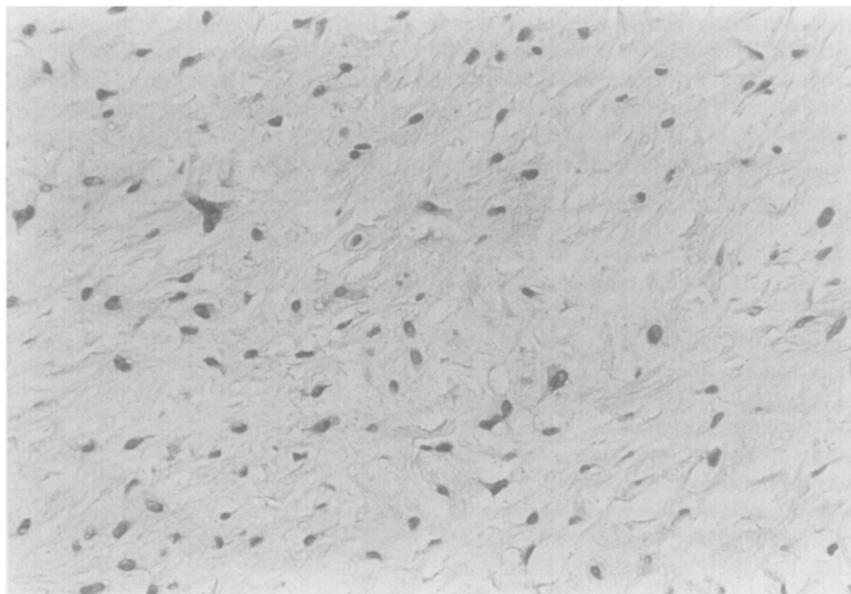


Fig. 3. Cells with bizarre and hyperchromatic nuclei on myxoid matrix (HE, $\times 32$).

of the tumor could not be established clinically or histologically; furthermore, study of numerous serial sections failed to reveal any other lesion. An extremely unusual pleomorphic adenoma or mixed tumor of the gingiva with pronounced chondromatous stroma could also be discounted, as no epithelial component was identified.

Cellular atypia in a chondromyxoid background is not considered to be an unequivocal sign of malignancy³, and "active chondroblasts" are occasionally

present in cartilaginous choristomas of the oral cavity². However, abnormal cytologic features should raise the possibility of an extraskeletal chondrosarcoma, an extremely rare tumor and one difficult to diagnose³.

In conclusion, the present case represents an example of the rare oral cartilaginous choristoma or soft-tissue chondroma. However, we believe that, as the histogenesis is debatable and possibly diverse, such lesions should be designated as merely benign cartilaginous tumors.

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