Polymorphous Low Grade Adenocarcinoma of Hard Palate: A Histopathological Pictorial

Sir,

Polymorphous low grade adenocarcinoma (PLGA) was simultaneously described as terminal duct carcinoma by Bastakis et al.\(^1\) and lobular carcinoma by Freedman and Lumerman,\(^2\) because of its microscopic similarity to the lobular carcinoma of breast. Evans and Bastakis coined the term PLGA in 1984 which describes its varied microscopic appearances and low grade behavior.\(^1\)

PLGAs involve minor salivary glands of buccal mucosa and upper lip and palate.\(^3\) PLGA is rare in major salivary glands, although few cases have been reported in the literature. Clinically, PLGA presents as a lump associated with or without pain.\(^2\) Microscopically, characteristic features of PLGA are the nuclear uniformity; the cells are cytologically bland and can be cuboidal, columnar, or spindled with a mixture being quite common. The cells have scant to moderate amounts of amphophilic or eosinophilic cytoplasm.\(^4\) PLGA shares morphological similarities with adenoid cystic carcinoma (ACC) and pleomorphic adenoma (PA), due to which it often presents a diagnostic challenge for oral pathologists. We hereby present a case of PLGA of hard palate in a 57-year female and also discuss the varied morphologies of the lesion.

A 57-year lady presented to the Department of Oral Medicine and Radiology with the chief complaint of a large painful swelling on her right postero-lateral part of hard palate for the last 6 months. Intraoral examination revealed a large dome-shaped swelling of hard palate extending to the soft palate measuring about 3x2 cm. The color of the swelling was slightly yellowish to red at places. On palpation, it was a firm to hard. The magnetic resonance imaging (MRI) report revealed focally expansile mass in the right half of the posterior third of the hard palate and adjacent superior alveolus. Based on these findings, a provisional diagnosis of ACC was given. Fine Needle Aspiration Cytology (FNAC) was done, which was non-conclusive. With the suspicion of a malignancy, our panel of surgeons advocated the complete removal of the lesion, so the incisional biopsy was not performed.

Subtotal maxillectomy was performed under general anesthesia and the rehabilitation was done by obturator. The excised tissue was sent to the Department of Oral and Maxillofacial Pathology (Figure 1). Follow-up period of 2 years was uneventful; a written consent of the patient was obtained for the publication of the case. Histopathological examination revealed a well-circumscribed lesion (Figure 2A). Tumor cells were arranged in various patterns, namely, trabecular, tubular (Figure 2B) and cribriform pattern with cyst like spaces (Figure 2C). The tumor cells were oval shaped with vesicular nucleus and indistinct margins. The tissue stroma was hyalanized and myxoid at places (Figure 2D).

At the periphery of the lesion, the cells exhibited a linear single cell pattern resembling Indian file pattern of infiltration. Based on all the histopathological features, a final diagnosis of PLGA was given.

PLGA is a low-grade malignant tumor, histologically characterized by morphological diversity and cytological uniformity.\(^3\) PLGA shares many of the histological features of ACC. We hereby present a case of PLGA of the hard palate with emphasis on the varied morphologies of the lesion.


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**Figure 1:** Excised specimen.

**Figure 2:** (A) A well circumscribed lesion (Hematoxylin and Eosin stain X10). (B) Trabecular and tubular patterns of tumor cells (Hematoxylin and Eosin stain X20). (C) Tumor cells arranged in a cribriform pattern with cyst like spaces (Hematoxylin and Eosin stain X40). (D) Round to oval shaped cells with vesicular nucleus and indistinct margins. (Hematoxylin and Eosin stain X40).
characteristics of PA, monomorphic adenoma (MA) and ACC. These tumors should be considered in the differential diagnosis of PLGA. PLGA can easily be differentiated from PA and MA, because of peripheral infiltration and perinueral invasion. However, unlike ACC, PLGA is treated by conservative wide excision. Therefore, it is especially critical to diagnose a PLGA rather than ACC in any location, but most notably in the palate, as the later diagnosis would result in a more radical excision of the hard palate.

The case presented here challenged the general belief that PLGAs are usually asymptomatic, as in the present case the swelling was painful, because of which it was provisionally diagnosed as ACC. We opine that PLGA may also be included in the provisional diagnosis of painful swellings of palate. This case also demonstrated the classical histopathological features of PLGA.

REFERENCES

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