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Pleomorphic adenoma with extensive squamous metaplasia - A case report

KEYWORDS
Pleomorphic adenoma;
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A lump on the palate may originate from the neoplastic change of the underlying minor salivary glands. The pleomorphic adenoma (PA) is the most common benign salivary gland tumor in both major and minor salivary glands. The PA usually presents as a painless, slowly-growing mass on the palate when it occurs in the oral cavity.[1,2] Here, we presented a case of PA on the right posterior hard palate near the hard and soft palate junction in a 43-year-old male patient.

This 43-year-old male patient was transferred to our hospital for management of a tumor on the right posterior hard palate for several months. The lesion seemed to get larger recently. Intraoral examination showed a nodule, measuring 0.7 cm in greatest dimension at the right hard and soft palate junction. Under the clinical impression of a benign minor salivary gland tumor and after discussing with the patient and obtaining the signed informed consent, the tumor on the right posterior hard palate was totally excised under local anesthesia by the oral surgeon and sent for histopathological examination. The surgical removal of the tumor and the post-operation wound healing process were uneventful. The study and report of this PA case was reviewed and approved by the Institutional Review Board at the MacKay Memorial Hospital, Taipei, Taiwan (23MMHIS235e).

Microscopically, it showed a partially encapsulated nodular mass (Fig. 1A) consisting of extensive epithelial cell nests with squamous metaplasia and cystic spaces filled with keratin flakes (Fig. 1B). Evidence of lipomatous change (Fig. 1C) was discernible in focal areas. There was also a proliferation of epithelial cells forming the tubular, glandular or trabecular structures in a fibrous (predominately) and myxoid (scanty) stroma (Fig. 1D). Immunohistochemical studies revealed that the tubular or glandular structures consisted of epithelial cells at the inner layer (highlighted by the cytokeratin 7 immunostain in Fig. 1E) and myoepithelial cells at the outer layer (highlighted by the p63 immunostain in Fig. 1F, the glial fibrillary acidic protein (GFAP) immunostain in Fig. 1G, and the S-100 protein immunostain (data not shown)). The Ki-67 labelling index was less than 5 % (Fig. 1H). Neither evidence of cytological atypia nor infiltrative growth pattern was discernible in the submitted specimen. The above histopathologic features were consistent with the diagnosis of a PA with extensive squamous metaplasia. The section margin was involved by the tumor.

PA is renowned for the diversities in its histopathologic features and is considered as the great mimicker of a malignant lesion.[3] One of the most significant issues is the histopathological similarity to squamous cell carcinoma in PA cases with extensive squamous metaplasia. Focal squamous metaplasia is estimated to be present in 25 % of PAs.[4] However, extensive squamous metaplasia with keratin-filled cystic spaces is relatively rare. The presence of lipomatous change is also found to be rare and may be confused with mucoepidermoid carcinoma under the lower magnification.[3] The above specific histopathologic features were also found in our case. Based on the whole-excised specimen with appropriate immunohistochemical studies, a PA with extensive squamous metaplasia and keratin-filled cystic spaces was finally confirmed. Further surgery for the involved margin was performed for our patient.

Although the presence of squamous metaplasia with keratin-filled cystic spaces may be challenging and

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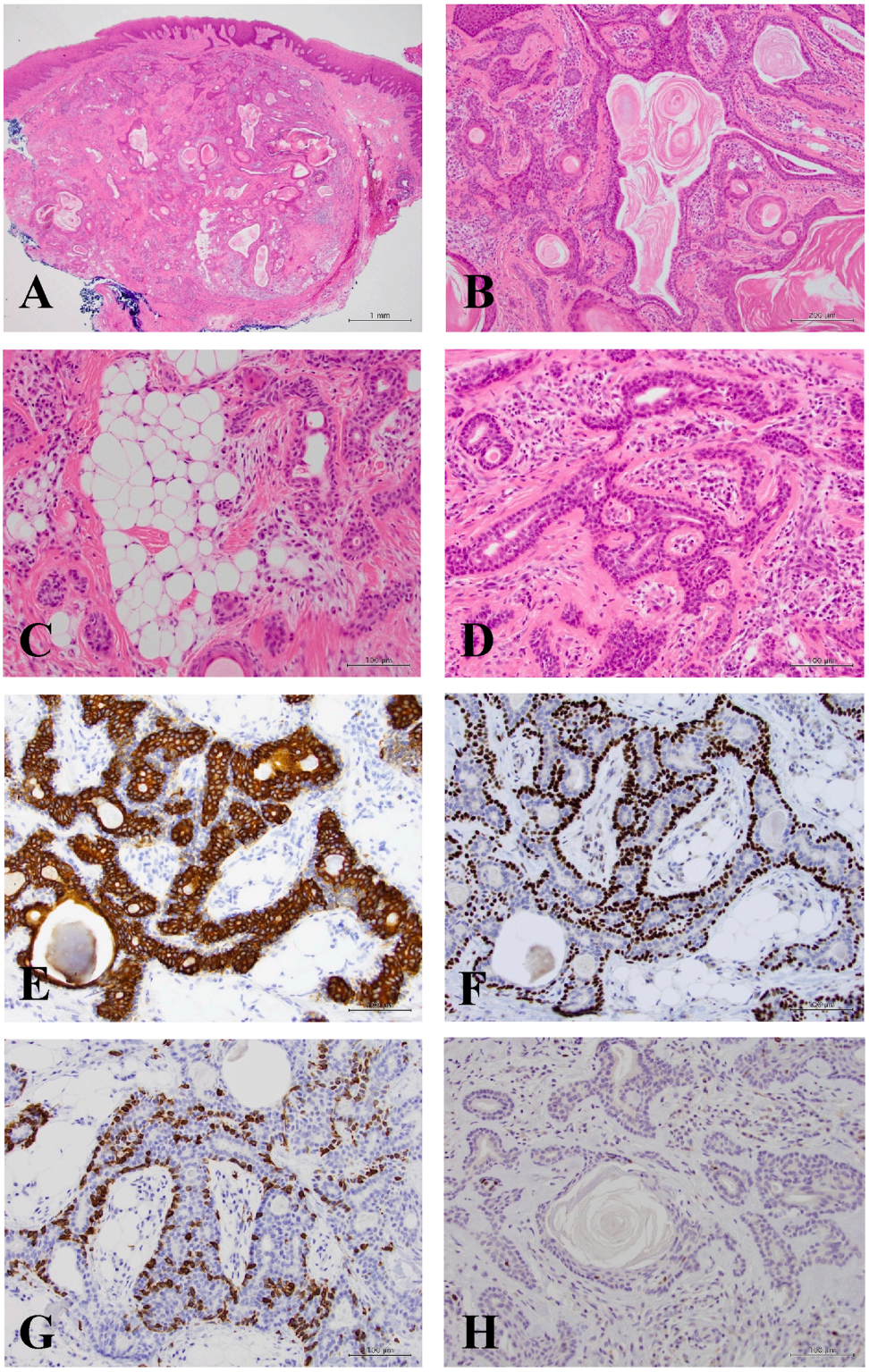

Figure 1 Histopathologic photomicrographs of the hematoxylin and eosin-stained and immunostained sections of our pleomorphic adenoma (PA) case. (A and B) Low-power photomicrographs showing a partially encapsulated nodular mass consisting of extensive epithelial cell nests with squamous metaplasia and cystic spaces filled with keratin flakes. (C) Medium-power photomicrograph exhibiting evidence of lipomatous change in focal areas. (D) There was also a proliferation of epithelial cells forming the tubular, glandular or trabecular structures in a fibrous (predominately) and myxoid (scanty) stroma. (E, F and G) The epithelial cells at the inner layer of the tubular or glandular structures was highlighted by the immunostain with cytokeratin 7 (E) and the myoepithelial cells at the outer layer was highlighted by the immunostains with p63 (F) or glial fibrillary acidic protein (GFAP) (G). (H) The Ki-67 labelling index was less than 5 %. (Original magnification of histopathological photomicrographs: A, 2 × ; B, 10 × ; C–H, 20 ×).

misleading, it can still be diagnosed as a PA through careful examination of the specimen. The lack of the cytological atypia and the help of immunostains with the antibodies against cytokeratin 7, p63, GFAP, and S-100 protein also help to confirm the final histopathologic diagnosis.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

Acknowledgments

None.

References

1. Hernandez-Prera JC, Ihrler S, Katabi N, et al. Pleomorphic adenoma. In: *WHO Classification of Tumours Editorial Board. Head and neck tumours*. Lyon (France): International Agency for Research on Cancer; 2023 [cited 2025 Oct 7]. (WHO classification of tumours series, 5th ed.; vol. 9). Available from: https://tumourclassification.iarc.who.int/chapters/52.
2. Neville BW, Damm DD, Allen CM, Chi AC. Salivary gland pathology. In: Neville BW, Damm DD, Allen CM, Chi AC, eds. *Oral and maxillofaical pathology*, 5th ed. St. Louis: Elsevier, 2024:479—87.
3. Hernandez-Prera JC, Skalova A, Franchi A, et al. Pleomorphic adenoma: the great mimicker of malignancy. *Histopathology* 2021;79:279—90.
4. Goulart MCV, Preitas-Faria P, Goulart GR, et al. Pleomorphic adenoma with extensive squamous metaplasia and keratin cyst formations in minor salivary gland: a case report. *J Appl Oral Sci* 2011;19:182—8.

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