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CLINICAL RECORD

Nasopharyngeal cylindrical cell papilloma

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Abstract

Introduction: Cylindrical cell papillomas are rare tumours which usually arise in the sinonasal region.

Case report: We report a case of a nasopharyngeal cylindrical cell papilloma in a 56-year-old man who presented with a four-month history of right-sided hearing loss, otalgia, vertigo and tinnitus. Investigation revealed a soft, nodular lesion obstructing the pharyngeal opening of the right eustachian tube; this was treated by wide endoscopic excision.

Conclusion: Cylindrical cell papilloma is a possible cause of eustachian tube obstruction in adults. Effective treatment of these lesions usually requires wide endoscopic excision, in order not to miss coexistent carcinoma.

Key words: Paranasal Sinus Neoplasms; Papilloma

Introduction

The ectodermally derived, ciliated respiratory mucosa that lines the sinonasal tract (the so-called Schneiderian membrane) gives rise to three morphologically distinct papillomas. Hyams has described these variants and categorised them as inverted, fungiform (exophytic) and cylindrical cell papilloma.[1] Cylindrical cell papillomas are the rarest of the three morphological variants, accounting for only 3 per cent of all sinonasal papillomas. Sinonasal papillomas have a small but distinct risk of malignant transformation.

We report a case of nasopharyngeal cylindrical cell papilloma.

Case report

A 56-year-old man presented with a four-month history of right-sided hearing loss, otalgia, vertigo and tinnitus.

Otoscopic examination of the right tympanic membrane revealed a middle-ear effusion, which was confirmed by tympanometry.

Endoscopic examination of the nasopharynx revealed a soft, nodular lesion obstructing the pharyngeal opening of the right eustachian tube.

During surgery, the lesion was found to be cystic and filled with mucus. It was excised with wide margins.

Histological examination showed long papillary outgrowths of pseudostratified ciliated epithelium, often branching to at least the third degree. The epithelium was markedly oncocytic, and in places crenellated. There were no goblet cells or microcysts. These features are typical of a cylindrical cell papilloma (Figure 1).

There is no evidence of recurrence four years after the initial diagnosis.

Discussion

Cylindrical cell papillomas are rare tumours which usually arise in the sinonasal region.[2] To the best of our knowledge, the current patient represents the first reported case of cylindrical cell papilloma arising in the nasopharynx. These lesions usually present as a fleshy pink, tan, red-brown or grey papillary or polypoid growth. Unilateral nasal obstruction and intermittent epistaxis are the most common symptoms. The oncocytic nature of these lesions has been established by Barnes and Bedetti.[3] The preferred term for this type of papilloma is oncocytic Schneiderian papilloma.

Few authors have attempted to correlate the pathology and clinical behaviour of sinonasal papillomas. The relative rarity of oncocytic Schneiderian papilloma prevents true comparison with inverted papilloma regarding recurrence rate and malignant potential. In addition, there is controversy in the literature regarding 'mixed' papillomas, that is, those with the combined features of inverted papilloma and oncocytic Schneiderian papilloma. Several investigators have confirmed the existence of hybrid lesions that contain epithelial elements of both inverted papilloma and oncocytic Schneiderian papilloma.[4,5] Alternatively, Michaels and Young have stated that each of these

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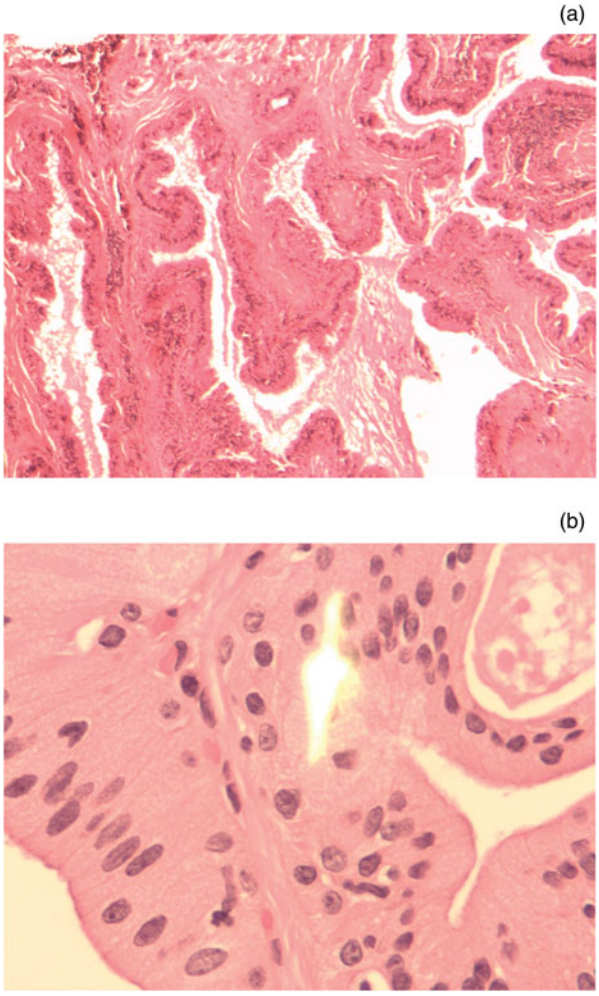

FIG. 1
Photomicrograph showing long papillary outgrowths of markedly oncocytic pseudostratified ciliated columnar epithelium, consistent with a diagnosis of cylindrical cell papilloma; (a) ×200, (b) ×400. (H&E)

variants is unique in terms of its histogenesis and microscopic appearance.[2]

Oncocytic Schneiderian papilloma is equally distributed between the sexes, and the majority of patients are more than 50 years of age at the time of diagnosis. The youngest patient currently reported was a 33-year-old woman.

At least 22 cases of oncocytic Schneiderian papilloma have been examined by in situ hybridisation and/or polymerase chain reaction for the presence of human papillomavirus (HPV); all such tests have been negative.[6,7] This is in contrast to fungiform and inverted papillomas, for which HPV has been found in many cases. Although this may be a sampling problem, it does suggest that the oncocytic Schneiderian papilloma is not aetiologically linked to this virus. Suggested associations with allergy, inflammation, smoking, noxious environmental agents and occupation are not convincing.[1] No such factors were identified in our patient.

The radiographic findings vary with the extent of the disease. Early on, there may be only a soft tissue density within the nasal cavity and/or paranasal sinuses. Later, with more extensive disease, unilateral opacification and thickening of one or more of the sinuses are common, as are expansion and displacement of adjacent structures. Pressure erosion of bone may also be apparent, and must be distinguished from osseous invasion associated with malignancy. In our case, radiological findings included a cystic lesion in the nasopharynx, with no evidence of bony erosion or sinus pathology.

Approximately 4–17 per cent of all oncocytic Schneiderian papillomas may harbour carcinoma. Most such carcinomas are squamous, but mucoepidermoid, 'transitional' and sinonasal undifferentiated carcinomas have also been described.[8,9] As in inverted papilloma, carcinoma complicating oncocytic Schneiderian papilloma may actually arise within the papilloma, as evidenced by a gradation of histological changes ranging from dysplasia to carcinoma in situ to invasive carcinoma; alternatively, it may merely be associated with the oncocytic Schneiderian papilloma. No evidence of malignant transformation was evident in our case.

- **Cylindrical cell papillomas are rare neoplasms arising in the sinonasal region**
- **These neoplasms may cause eustachian tube obstruction in adults**
- **Effective treatment involves wide excision**
- **Careful histological examination is needed to exclude coexistent carcinoma**

The clinical behaviour of oncocytic Schneiderian papilloma parallels that of inverted papilloma, and warrants aggressive management and careful clinical surveillance. Small tumours may be treated endoscopically. Effective treatment of larger tumours comprises lateral rhinotomy and medial maxillectomy. If inadequately excised, at least 25–35 per cent will recur, usually within five years of treatment.[10] In the case of nasopharyngeal lesions, as in our patient, wide endoscopic excision seemed to suffice, with no evidence of recurrence four years after the initial diagnosis.

Conclusion

We wish to draw otolaryngologists' attention to the existence of oncocytic Schneiderian papilloma, a condition likely to present as a tumourous lesion in the nasopharynx, and a possible cause of eustachian tube obstruction in adults. We also wish to stress the requirement for complete excision of these benign tumours, so as not to miss coexistent carcinoma.

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