Inverting Papilloma of the Middle Ear: A Case Report

O’Connell BP, MD; Rivas A, MD; Wanna GB, MD; Haynes DS, MD
Department of Otolaryngology, Vanderbilt University

Introduction

Inverting papillomas (Schneiderian-type papillomas) are relatively uncommon, benign neoplasms found almost exclusively in the sinonasal cavity. These lesions arise from ectoderm derived sinonasal mucosa and are most commonly located in the lateral nasal wall. Surgical excision with adequate margins is the preferred method of treatment, however high recurrence rates have been reported after incomplete removal of tumor.

Although benign, inverting papillomas can be locally aggressive with extension into the paranasal sinuses, orbit, anterior skull base, and temporal bone resulting in marked bony destruction. In addition, an association with squamous cell carcinoma has been indentified but malignant transformation is relatively rare.

Lesions infrequently arise outside the sinonasal cavity. In these cases, involvement of the pharynx, and lacrimal sac has been described. We present a case of isolated middle ear inverting papilloma in a patient with a previous history of sinonasal inverting papilloma.

Operative Findings and Post-op Course

A transcanal approach was elected and upon elevation of the tympanomeatal flap, it became evident that this tumor was not a papilloma in a patient with a previous history of sinonasal inverting papilloma. A transcanal approach was elected and upon elevation of the tympanomeatal flap, it became evident that this tumor was not a papilloma in a patient with a previous history of sinonasal inverting papilloma. Vascularity characteristic of these lesions. The tumor extended superiory to the level of the neck of the malleus and was adherent to the ossicles, and tympanic segment of the facial. Careful dissection was performed and the tumor did not involved or emanated from the nerve. Upon complete removal, the ossicles and facial nerve were intact. Histopathologic examination revealed an markedly inflamed middle ear inverted papilloma with schneiderian features. The patient is being followed every 6 months without recurrence of the disease.

Discussion

The pathophysiologic mechanism of this condition is not well understood. Middle ear involvement has been hypothesized to be the result of: 1) direct extension of a primary sinonasal-tract tumor via the Eustachian tube, or 2) ectopic migration of the ectodermally derived Schneiderian membrane that lines the sinusosal cavity during embryogenesis.

In the case presented here, inverting papilloma of the middle ear arose ten years after excision of a similar lesion within the sinonasal cavity. Extension of recurrent sinonasal tumor via the Eustachian tube cannot be completely ruled out. However, the absence of gross metachronous sinonasal disease provides support for the theory that development of such tumors can be multicentric in origin.

These lesions are characterized by a tendency to recur after inadequate excision and are associated with malignant transformation to squamous cell carcinoma. Adequate surgical excision was achieved despite extension medial to a dehiscent facial nerve.

Post-operative imaging showed no signs of tumor or disease spread. The patient is currently six months out from surgery with no evidence of recurrent disease. We advocate close follow up every six month because of the risk of malignant transformation.

Conclusions

Inverting papillomas of the middle ear are exceedingly rare. Due to the lack of cases reported in the literature, there is no accepted diagnostic or treatment protocol in managing this condition. Clinicians should be aware of the sites of involvement of inverting papillomas and the role of surgical excision with mandatory long-term follow-up. Given the locally aggressive nature and small but undeniable risk for malignant transformation, familiarity with various clinical presentations of inverting papilloma can eliminate delays in diagnosis and decrease the morbidity associated with this tumor.

References