

Extensive Benign Sinonasal Squamous Papilloma

I P Tang, MD*, N Prepageran, FRCS (ORL)

Department of Otorhinolaryngology, Faculty of Medicine, University of Malaya, 50630 Kuala Lumpur

SUMMARY

We reported a patient with an extensive benign sinonasal squamous papilloma in the right nasal cavity with involvement of right sphenoid, ethmoid, maxillary sinuses and intracranial extension. This tumour is rare with very few reported cases in the literature of such extensive in nature. The tumour is excised completely with combined endoscopic transnasal and transcranial approaches. The patient remains disease free at a year interval of follow-up.

INTRODUCTION

Sinonasal papilloma is a benign polypoidal columnar or ciliated respiratory epithelial tumour with variable squamous differentiation. It is a rare tumour and mostly occurs unilaterally¹. According to WHO 1991, it is divided into 3 histopathologically types: 1 exophytic squamous papilloma, 2 inverted papilloma 3, columnar cell papilloma^{1,2}. All the three types of papillomas show a locally expansive growth³. The sinonasal papilloma has a tendency to recur with a reported incidence rate of 20-47 percent. Recent studies suggest that human papillomavirus (HPV) could be involved in the development of these tumours¹.

The squamous papilloma of the nasal cavity usually arises from the nasal septum or the floor of the nostril. It is not considered to be premalignant and bone erosion is uncommon⁴. We report a case of an extensive benign sinonasal squamous papilloma involving the right nasal cavity, paranasal sinuses with intracranial extension.

CASE REPORT

A 37 years old Chinese lady presented with right-sided nasal obstruction and mucopurulent discharge for six months. Otherwise, she was well with no other complaints. Anterior rhinoscopy revealed a firm, fleshy, exophytic mass which blocked the right nostril (Figure 1). No other abnormalities noted.

MRI of paranasal sinuses and brain was done. The MRI showed a large soft tissue mass with lobulated margin in the right nasal cavity as well as the roof of the postnasal space with extension into the sphenoid and posterior two-third of right ethmoid sinuses. The mass eroded the roof of these sinuses, clivus and extends into the anterior cranial fossa and adjacent anterior part of the pituitary fossa (Figure 2). No brain metastasis noted.

A biopsy of the superficial nasal mass showed squamous papilloma. Surgical resection was planned to rule out the

presence of underlying malignancy. Combined endoscopic transnasal with imaging guided system and transcranial (bifrontal craniotomy) approaches were used to excise the tumour. Intraoperatively, the tumour filled the right nasal cavity, right sphenoid, ethmoid and maxillary sinuses. Right middle turbinate was eroded by tumour. The tumour completely eroded the clivus, extended through the floor of anterior cranial fossa and was adherent to the dura mater. The tumour was completely removed under endoscopic/direct visualization together with neurosurgical team. Pericranial flap was used to cover the dural defect.

Histopathological examination of the resected specimen showed congested polypoidal fibrous tissue which was covered by stratified squamous epithelium. No subepithelial invasion was seen and no evidence of malignancy detected. Both epithelium and fibrous tissue were infiltrated by mixed inflammatory cells. The diagnosis of right sinonasal squamous papilloma was made. She recovered uneventfully without any complications. No recurrence was detected during her last eight months of follow-up with the repeated MRI scan (Figure 3).

DISCUSSION

Sinonasal squamous papilloma is an uncommon, benign tumour of the sinonasal cavity. It rarely causes bone erosion. Bone erosion is an important sign that should alert the clinician to the possibility of malignancy. However, benign papilloma can cause bone erosion by pressure necrosis which might result in serious morbidity. In this case, the large tumour caused pressure necrosis of the anterior cranial fossa bone. Unrestricted growth, even of a benign papilloma can cause death if it extends into vital structures⁴.

Imaging studies are essential for accurate diagnosis and assessment of the nature and extent of the sinonasal tumours. In our case, the patient was referred to us with a MRI scan from a private hospital. The MRI scan demonstrated the extent of the papilloma and intracranial involvement.

The standard treatment for sinonasal papilloma is radical excision depending on the extension of the tumour⁵. Radiotherapy for squamous papilloma is ineffective and always raises the possibility of inducing malignancy⁴. In our case, combined surgery of endoscopic transnasal and transcranial approaches with neurosurgical team provided complete visualization of the tumour and allowed for its complete removal.

The main clinical problem with sinonasal papilloma is high rate of recurrence of 25 to 75% regardless of the histologic

This article was accepted: 11 August 2007

*Corresponding Author: Tang Ing Ping, Department of Otorhinolaryngology, Faculty of Medicine, University of Malaya, 50630 Kuala Lumpur
Email: ingptang@yahoo.com*

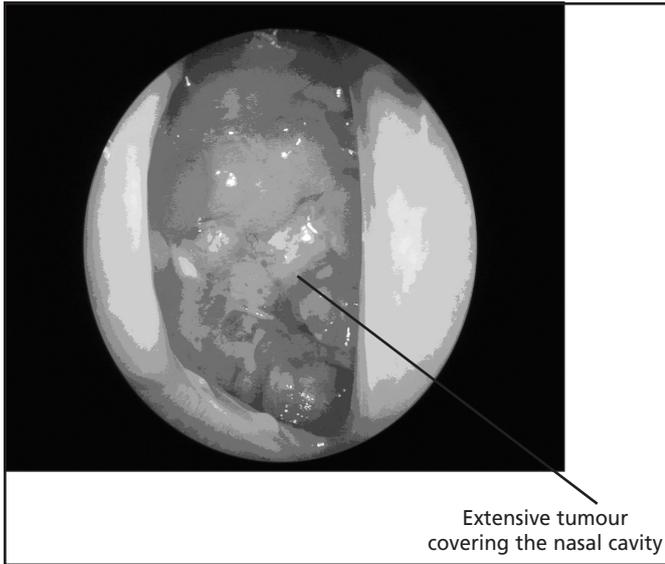


Fig. 1: Tumour view with endoscopic examination

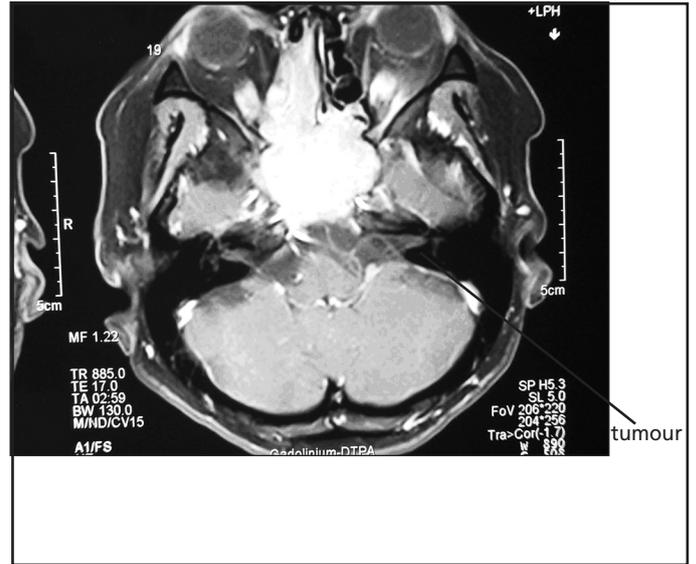


Fig. 2: MRI axial view

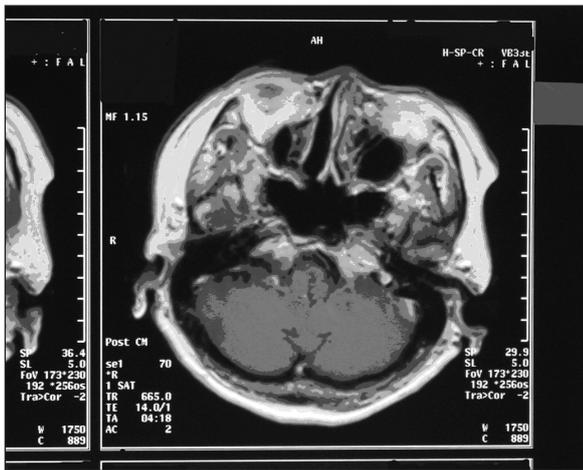


Fig. 3: Eight months follow-up MRI axial view, no recurrence of tumour noted

type⁵. The variable recurrence rates might be the result of an incomplete removal of the tumour partly because of the complex anatomy of the nasal cavity and paranasal sinuses⁴. With the advances in endoscopic equipment and techniques,

most previously inaccessible sites are now accessible which can reduce the risk of recurrence. Therefore, long term follow-up with endoscopic examination is essential to detect any recurrence.

CONCLUSION

In conclusion, sinonasal papilloma is rare usually unilateral. It can be extended extensively to any adjacent structures from the origin of the tumour as in this case. Imaging studies is essential to view the extension of the tumour and complete resection of the tumour is the goal. Long-term follow-up is needed in view of high recurrence rate.

REFERENCES

1. Kraft M, Simmen D, Casas R, Pfaltz M. Significance of human papillomavirus in sinonasal papillomas. *J Laryngol Otol* 2001; 115: 709-14.
2. Shanmugarathan K, Sobin LH. Histological typing of tumours of the upper respiratory tract and ear. Berlin: Springer Verlag, 1991.
3. Lawson W, Ho BT, Shaari CM, Biller HF. Inverted papilloma: a report of 112 cases. *Laryngoscope* 1995; 105: 282-28.
4. Mok JS, Tong MC, Van Hasselt. Giant benign sinonasal squamous papilloma: Report of a case. *Ear Nose Throat J* 2000; 79: 718-20.
5. Kumagai M, Endo S, Matusuanga E, Kida A, Sakata H, Yamamoto M. Squamous papillomatosis of the bilateral nasal cavities. *Tohoku J Exp Med* 2005; 206: 267-70.