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CLINICAL RECORD

Transnasal endoscopic approach with powered instrumentation for treating squamous papilloma in the nasopharyngeal surface of the soft palate

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Abstract

Objective: To demonstrate a safe and effective method for complete resection of squamous papilloma in the nasopharyngeal surface of the soft palate. This technique was used on a patient in whom the papilloma had twice recurred following uvulopalatopharyngoplasty.

Methods: Case report and review of the relevant literature.

Results: The patient reported in this paper had recurrent squamous papilloma in the nasopharyngeal surface of the soft palate following uvulopalatopharyngoplasty. He also suffered from nasal regurgitation when drinking water. This lesion, which was difficult to access, was successfully treated via a transnasal endoscopic approach using powered instrumentation.

Conclusion: This case report highlights a novel approach for the complete removal of a recurrent papilloma in a relatively inaccessible location. Compared with a transoral approach such as uvulopalatopharyngoplasty, the transnasal endoscopic approach using powered instrumentation could provide a safer, faster, easier and less invasive means of treating squamous papilloma in the nasopharyngeal surface of the soft palate, especially for a lesion that recurs following a transoral approach.

Key words: Papilloma, Squamous Cell; Oral Surgical Procedures; Instrumentation

Introduction

Although squamous papillomas may occur in any mucosal site within the upper aerodigestive tract,[1] isolated squamous papillomas involving the nasopharyngeal surface of the soft palate are very rare. To our knowledge, only two cases of nasopharyngeal squamous papillomas has been treated via a transoral approach, with uvulopalatopharyngoplasty (UPPP).[2] However, this technique is associated with significant complications, including velopharyngeal insufficiency, dysphagia, persistent dryness and nasopharyngeal stenosis.[3]

The transnasal endoscopic approach has been used by others to treat nasopharyngeal lesions, including adenoidectomy and nasopharyngeal cysts. However, the use of this approach with powered instrumentation for removal of a squamous papilloma in the nasopharyngeal surface of the soft palate has not previously been reported.

This study was approved by the institutional review board of the Pusan National University Hospital, South Korea.

Case report

A 62-year-old man was referred to our hospital with a recurrent squamous papilloma in the nasopharyngeal surface of the soft palate. The multiple papillomatous lesions on the nasopharyngeal surface of the uvula and soft palate had twice been treated over a six-month period at another hospital using a transoral approach. However, the lesion recurred following UPPP; fibre-optic endoscopy showed an exophytic, solitary papillomatous lesion on the superior nasopharyngeal surface of the remnant soft palate (Figure 1). The patient also suffered from nasal regurgitation when drinking water.

Surgery was performed under general anaesthesia using a transnasal endoscopic approach with powered instrumentation (Figure 2). After proper decongestion of both nasal cavities was achieved, we operated through both nostrils using a two-handed technique. The endoscope was inserted into the right nostril, and the curved blade of a microdebrider (Medtronic Xomed, Jacksonville, Florida, USA) was inserted through the left nostril. The papillomatous lesion was removed with a 30-degree angle, 4-mm microdebrider in oscillating mode, at speeds between 100 and 1500 rpm, under direct visualisation using a 30-degree nasal endoscope. Haemostasis was achieved with the intermittent application of pledgets soaked with adrenaline hydrochloride.

There were no post-operative complaints, and the post-operative course was uneventful except that nasal regurgitation remained unchanged. An endoscopic examination performed 15 months post-operation showed no evidence of recurrence (Figure 3).

Discussion

The transoral approach is a commonly chosen approach to the soft palate and nasopharynx because it allows the most

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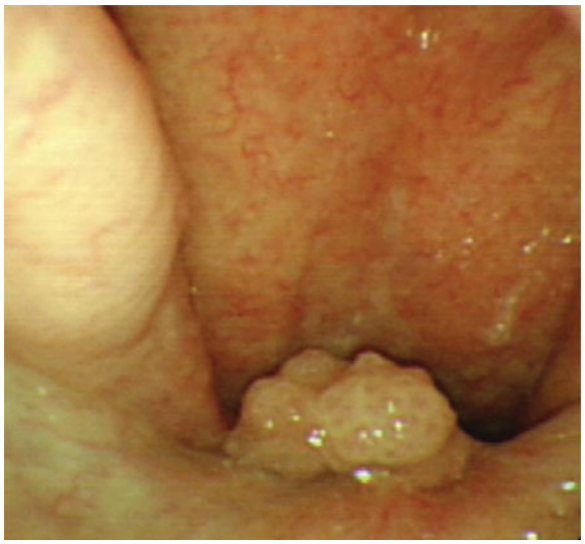

FIG. 1
Endoscopic photograph showing an exophytic, solitary papillomatous lesion on the superior nasopharyngeal surface of the remnant soft palate following uvulopalatopharyngoplasty.

direct route to pathology of the soft palate and posterior wall of the nasopharynx.

Briskin *et al.* reported two cases of squamous papilloma in the same area as in our case that were treated with a UPPP approach.[2] Uvulopalatopharyngoplasty, introduced in the early 1980s, is usually used to treat obstructive sleep apnoea.[4] However, it is associated with significant complications.[4,5] Typical early complications include pain, post-operative bleeding, nasal reflux, local infection, hypernasality and middle-ear cleft dysfunction. The most common late complication is velopharyngeal insufficiency, with varying degrees of nasal regurgitation.

The treatment of squamous papillomas in the nasopharynx using a transoral approach such as UPPP is considered a safe and effective method for complete resection.[2] However, our patient, who suffered from velopharyngeal insufficiency,

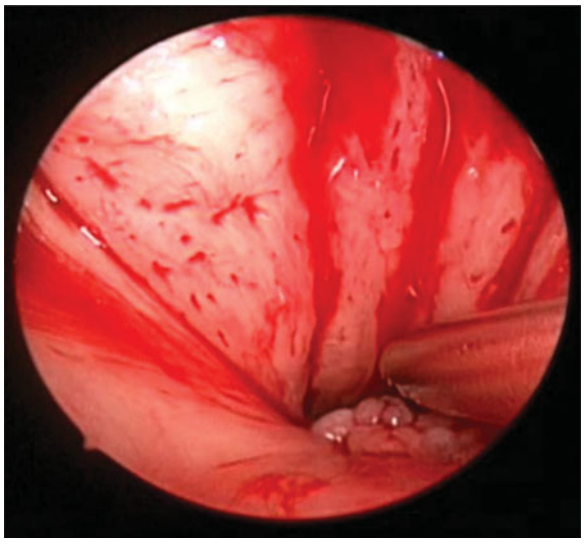

FIG. 2
Endoscopic photograph showing the papillomatous lesion being removed via a transnasal endoscopic approach.

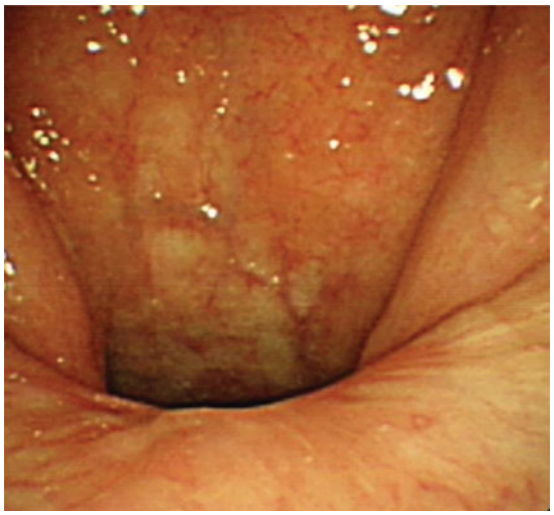

FIG. 3
Endoscopic photograph showing no evidence of tumour recurrence, with well healed mucosa of the soft palate at three months post-operation.

experienced two episodes of recurrence following a transoral approach. A squamous papilloma may recur with any treatment modality,[6] although most recurrences are related to incomplete excision. A squamous papilloma in the nasopharyngeal surface of the soft palate is difficult to access, which makes complete surgical excision challenging.

The physical and optical features of an endoscope, such as ease of use in narrow surgical anatomy, a wide panoramic view and an angled view of anatomical corners, prompted us to explore the nasopharyngeal surface of the soft palate via a transnasal endoscopic approach.[7] During an operation, when manipulation of a microdebrider or other larger surgical instruments is impeded by the presence of an endoscope in the same nostril, the surgical instruments can be introduced via the other nostril or through two nostrils.[7,8] This can be done without any significant additional damage to the nasal structures because each nasal air passage is directly connected to the nasopharynx via the choana.

During the past decade, the use of powered instrumentation has become widespread in rhinology.[9] Recent reports have described the use of the microdebrider for adenoidectomy,[10] and the removal of lesions in the larynx and trachea.[11,12]

- **A transoral approach such as uvulopalatopharyngoplasty (UPPP) has been used to treat squamous papillomas in the nasopharyngeal surface of the soft palate**
- **This technique is associated with significant complications**
- **A transnasal endoscopic approach can also be used for excision of squamous papilloma in this difficult-to-access region**
- **This alternative approach has the potential to be safer, faster, easier and less invasive than UPPP**

The microdebrider offers precise resection and rapid debulking, and it may reduce surgical bleeding and post-operative

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pain. In addition, the microdebrider blade incorporates a suction device that enables the operator to pull the papilloma away from underlying tissue, making it easier to remove the diseased mucosa.[6] However, there may be potential complications such as nasal bleeding, nasal synechia and injury of palatal muscle due to surgical trauma. A transnasal endoscopic approach using powered instrumentation should be conducted with caution, under direct visualisation.

Conclusion

Compared with a transoral approach such as UPPP, a transnasal endoscopic approach with powered instrumentation could provide a safer, faster, easier and less invasive means to treat squamous papilloma in the nasopharyngeal surface of the soft palate, especially a lesion that recurs following treatment using a transoral approach.

References

1 Carneiro TE, Marinho SA, Verli FD, Mesquita AT, Lima NL, Miranda JL. Oral squamous papilloma: clinical, histologic and immunohistochemical analyses. *J Oral Sci* 2009;**51**:367–72
2 Briskin KB, Kerner MM, Calcaterra TC. Squamous papillomas of the nasopharynx treated by a uvulopalatopharyngoplasty approach. *Am J Otolaryngol* 1994;**15**:379–82
3 Won CH, Li KK, Guilleminault C. Surgical treatment of obstructive sleep apnea: upper airway and maxillomandibular surgery. *Proc Am Thorac Soc* 2008;**15**:193–9
4 Maisel RH, Antonelli PJ, Iber C, Mahowald M, Wilson KS, Fiedler B *et al*. Uvulopalatopharyngoplasty for obstructive sleep apnea: a community's experience. *Laryngoscope* 1992; **102**:604–7
5 Rombaux P, Hamoir M, Bertrand B, Aubert G, Liistro G, Rodenstein D. Postoperative pain and side effects after uvulopalatopharyngoplasty, laser-assisted uvulopalatoplasty, and radiofrequency tissue volume reduction in primary snoring. *Laryngoscope* 2003;**113**:2169–73
6 Pasquale K, Wiatrak B, Woolley A, Lewis L. Microdebrider versus CO2 laser removal of recurrent respiratory papillomas: a prospective analysis. *Laryngoscope* 2003;**113**:139–43
7 Alfieri A, Jho HD, Tschabitscher M. Endoscopic endonasal approach to the ventral cranio-cervical junction: anatomical study. *Acta Neurochir (Wien)* 2002;**144**:219–25
8 Zimmer LA, Hirsch BE, Kassam A, Horowitz M, Snyderman CH. Resection of a recurrent paraganglioma via an endoscopic transnasal approach to the jugular fossa. *Otol Neurotol* 2006; **27**:398–402
9 Christmas DA Jr, Krouse JH. Powered instrumentation in functional endoscopic sinus surgery. I: Surgical technique. *Ear Nose Throat J* 1996;**75**:33–6, 39–40
10 Pagella F, Matti E, Colombo A, Giourgos G, Mira E. How we do it: a combined method of traditional curette and power-assisted endoscopic adenoidectomy. *Acta Otolaryngol* 2009;**129**:556–9
11 Parsons DS, Bothwell MR. Powered instrument papilloma excision: an alternative to laser therapy for recurrent respiratory papilloma. *Laryngoscope* 2001;**111**:1494–6
12 El-Bitar MA, Zalzal GH. Powered instrumentation in the treatment of recurrent respiratory papillomatosis: an alternative to the carbon dioxide laser. *Arch Otolaryngol Head Neck Surg* 2002;**128**:425–8

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