Squamous Papillomatosis of the Bilateral Nasal Cavities

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KUMAGAI, M., ENDO, S., MATSUNAGA, E., KIDA, A., SAKATA, H. and YAMAMOTO, M. Squamous Papillomatosis of the Bilateral Nasal Cavities. Tohoku J. Exp. Med., 2005, 206 (3), 267-270 — The term “papillomatosis” indicates the tendency towards multicentricity and recurrence that these tumors exhibit (Snyder et al. 1972). A typical squamous papilloma arises from the nasal vestibule and is characterized by the epithelial proliferation growing an exophytic manner. We report a rare case of squamous papillomatosis of the bilateral nasal cavities. A 65-year-old man presented with a 2-year-history of bilateral nasal obstruction. Computed tomographic (CT) scans revealed a soft density mass in the bilateral nasal cavities and ethmoid sinuses. Because the tumors were limited to the nasal cavities and anterior ethmoid sinuses, total removal of the tumors was performed endoscopically. On the basis of the clinicopathological findings, the tumors were diagnosed as squamous papillomas. His post-operative course was uneventful, and he is currently free from disease 13 months after surgery. Nasal papillomas usually arise from the unilateral nasal cavity or paranasal sinus. While some cases of inverted (inverting) papillomas arising from the bilateral nasal cavities have been reported, bilateralism of the nasal squamous papillomas is quite rare. Diagnosis, clinical behavior and treatment of squamous papillomatosis of the bilateral nasal cavities are reviewed.

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Although the etiology of intranasal papilloma has been generally postulated to be viral, the subtypes of human papilloma viruses associated with this tumor have been controversial. This neoplasm was categorized, on anatomic basis, into four types: keratotic papilloma from the nasal vestibule; inverted papilloma from the lateral nasal wall; fungiform papilloma from the nasal septum; cylindrical papilloma from the paranasal sinus (Batsakis 1979). While, on histological basis, it was devided into two types; the one, squamous papilloma; another, inverting papilloma (Norris 1962, 1963). Histologically, a typical squamous papilloma arises from the stratified squamous epi-
thelium of the vestibule and is characterized by the epithelial proliferation growing in an exophytic manner with a formation of multiple papillary fronds, uncommon mitosis, and little or no nuclear atypia (Snyder et al. 1972). It is considered to originate unilaterally, and, unlike inverted papilloma, generally not considered to be premalignant and bone destruction is unusual. Here, we report a case of squamous papillomas arising from the lateral walls of the bilateral nasal cavities extending into ethmoid sinuses.

**CASE REPORT**

A 65-year-old man who had complained of bilateral nasal obstruction for 2 years was referred to our clinic. He had a past history of benign prostate hypertrophy and no particular family history of illness. On physical examination, there were multicentric polypoid lesions in his both nasal cavities. No abnormal findings were noted in the oral cavity, pharynx, or larynx. CT scans revealed the soft density mass occupying most of the both nasal cavities and anterior ethmoid sinuses without bone destruction (Fig. 1). Although he had been clinically diagnosed as chronic sinusitis with nasal polyps previously and preoperative biopsy was not performed, careful observation under the endoscopy suggested that these polypoid masses had cauliflower-like surfaces and elastic firm natures. Since the tumors occupied both nasal cavities and limited to the anterior ethmoid sinuses, he underwent bilateral endoscopic sinus surgery. The tumors arose from the lateral nasal wall and ethmoid mucosa of the bilateral nasal

Fig. 1. CT scan (axial section).
Note the soft-density-mass involving the bilateral nasal cavities (a) and anterior ethmoid sinuses without bone destruction (b).

Fig. 2. Microscopic findings of the tumor showing papillomatous epithelium that grows mainly in an exophytic manner (arrowhead) with a formation of multiple papillary fronds (asterisk). (a: right side, b: left side). Scale bar = 400 μm (Hematoxylin & Eosin stain).
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Cavities and bilateral ethmoid roofs were not suffered. The tumor was resected en bloc. An adequate safety margin (5 mm) was achieved on the tumor base without the need for lateral rhinotomy. His post-operative clinical course was uneventful. The resected tumors were various-sized polypoid tissues. The cross section of the specimen showed firm, partially fibrous, and whitish mass. Microscopic findings of the tumor were characterized by a marked proliferation of the epithelium over broad surface. This epithelial proliferation was mainly exophytic with a fibrous stroma, little nuclear atypia, and no keratosis (Fig. 2). On the basis of findings from these excised lesions, the tumors were diagnosed as squamous papillomas. The margins were histologically free from tumor invasion as tentatively decided pathological examination using a frozen section and permanently fixed specimen. No additional treatment was given to him because the operative and histological findings indicated that the tumor was completely resected and benign. The patient is currently free from disease 13 months after surgery.

**DISCUSSION**

Papillomatosis is usually unilateral and a low incidence of bilaterality has previously been observed (Smith and Denker 1962; Alfold and Winship 1963; Brown 1964). To our knowledge, although some reports of inverted papilloma of the bilateral nasal cavities have been reported (Buchwald et al. 1995; Hosal and Freeman 1996), few case of squamous papillomatosis arising from the bilateral nasal lateral walls at the same time has reported in the English literatures. Especially, when a polypoid mass exists in the unilateral nasal cavity or paranasal sinus, a preoperative biopsy of the lesion should be performed to make a histological diagnosis. In our case, there was no septal destruction and no lesion extending to epipharynx nor another nasal cavity, these tumors might arise independently from the each nasal lateral walls. Such case must be difficult to differentiate from bilateral chronic sinusitis with polyps. Histological features that may predict a recurrence include epithelial atypia and epithelial mucin production (Snyder et al. 1972). According to literature, 25 to 75% of all intranasal papillomas are said to recur post-operatively, regardless of the histological type (Phillips et al. 1990). The variable recurrence rates might be the result of an incomplete resection of the tumor, because of the particularly complex anatomy of the intranasal space. The standard treatment for intranasal papilloma is radical excision. To evaluate the extent of the disease, the presence of the bone destruction, and paranasal sinus involvement, CT scan should be obtained prior to surgery.

Although complete excision of this tumor may be difficult, the ability to examine the entire cavity and paranasal spaces by endoscopic techniques facilitate the complete excision of the tumor, which can reduce the rate of recurrence, even if the lesion involves most previously inaccessible sites. The advantages of endoscopic resection above radical resections include no external scar, shorter hospital stay, less bleeding associated with operations, fewer anesthetic complications by shortening operative duration, and fewer post-operative mucocele’s development, pain, and epiphora (Homer et al. 1997). Radiotherapy for squamous papilloma is ineffective and always rises the possibility of developing malignancy (Mok et al. 2000). Recently, loss of heterozygosity (LOH) at 3p21, 9p21 and 17p13 was detected in head and neck squamous cell carcinomas (Shiga et al. 2004). So, in the near future, the existence of LOH at these areas of the genome might be useful in the diagnosis for malignancy or prognosis in head and neck papillomas. Long-term follow-up is mandatory, even if the tumor appears to be completely resected. The present case meets such circumstances, and is to be under close follow-up hereafter.

In conclusion, this case suggests that not all papillomas arising from the nasal lateral walls are inverted papillomas, papillomatosis can exist independently in the bilateral nasal cavities, and the lateral nasal papillomas may be successfully resected by a transnasal endoscopic approach.

**References**


