Endoscopic Approach to Oncocytic Schneiderian Papilloma: A Rare Nasopharyngeal Mass Lesion

Nevzat Demirbilek 1, Cenk Evren 1, Ahmet Cemil Kaur 2

1 Medilife Beylikduzu Hospital, Department of Otolaryngology, Istanbul
2 e-patoloji Laboratory, Uskudar, Istanbul

Accepted 12th January, 2016.

ABSTRACT

Schneiderian papillomas are benign neoplasms of the nasal cavity and paranasal sinuses arising from the surface epithelium which are also associated with malignant transformation. These neoplasms have three subtypes, namely fungiform, oncocytic, and inverted. Oncocytic Schneiderian papilloma is the rarest of the three morphological variants. It usually presents with unilateral intranasal polypoid lesions. Nasopharyngeal origin of this mass lesion is extremely rare. Herein, we report a 44-year-old male case of oncocytic Schneiderian papilloma arising from the nasopharynx and discuss the evolution process, clinical findings, and treatment modalities in the light of the literature data.

Key words: nasal cavity neoplasm, papilloma, oncocytic Schneiderian papilloma.

INTRODUCTION

Schneiderian papillomas are benign neoplasms of the nasal cavity and paranasal sinuses arising from the surface epithelium, namely Schneiderian membrane (1). They are locally aggressive tumors and are also associated with malignant transformation (1,2). They usually originate from the lateral nasal wall (1, 2, 3). Herein, we report a rare nasopharyngeal oncocytic Schneiderian papilloma (OSP) which was removed via transnasal endoscopy.

Case report

A 44-year-old man was admitted to another healthcare center with complaints of left-sided nasal congestion and treated with septoplasty and bilateral inferior turbinate radio frequency. He was admitted to our clinic with persistent complaints. Endoscopic examination showed that the nasal septum was located in the middle with a white and round-shaped polypoid mass with smooth margins. Otolaryngological and head and neck examination findings were non-specific. He did not suffer from headache, hearing loss, or epistaxis. Magnetic resonance imaging (MRI) showed a smooth-contoured mass suggestive of lymphoid hyperplasia (Figure 1).

Pathologic examination of biopsy specimens which were obtained under local anesthesia showed an oncocytic sinonasal papilloma with mitotic figures. Microscopic examination revealed an oncocytic neoplastic structure containing proliferative epithelial cells (Figure 2). Inflammatory cellular infiltration enriched by eosinophilia with dilated vascular structures in the edematous stroma under the epithelium. Wide excision was recommended by the pathologist with the suspicion of malignancy.

With regard to the pathological structure of the mass, computed tomography (CT) was performed which showed no erosion or bone invasion.

Endoscopic approach was used during the procedure. Decongestion was performed under general anesthesia; however, the mass was unable to be reached. As a result, a vertical incision to the posterior septum was performed. A mucoperichondrial flap was created which was expanded into the choana. The posteroinferior nasal septum and the posterior segment of the left inferior turbinate were excised to achieve a better visualization of the nasopharynx after bleeding control. The tumoral mass was completely removed with the adjacent intact tissues by a sickle blade and an aspiration cautery.

Pathological examination result was reported as an oncocytic Schneiderian papilloma without any other lesion within the surgical margins. The patient had an uneventful postoperative recovery. In the last visit two years after surgery, no recurrence was noted (Figure 3).

*Corresponding Author: Cenk Evren, Medilife Beylikduzu Hospital, Department of Otolaryngology, Istanbul
Telephone: +90 (212) 866 80 80, Fax: +90 (212) 866 80 81
Email: drcenkevren@yahoo.com
DISCUSSION

Schneiderian papillomas which are benign neoplasms of the nasal cavity and paranasal sinuses have three subtypes, namely fungiform (exophytic), oncocytic (cylindrical-cell or columnar-cell), and inverted (2, 4). The inverted type is the most common subtype, accounting for 47% to 73% of all Schneiderian papillomas, while the incidence of fungiform papillomas varies between 19% and 50% and OSPs between %3 and 8% (5, 6, 7). All subtypes have unique microscopic properties and histopathogenesis (4).

Oncocytic Schneiderian papillomas are endophytic or exophytic, benign papillary neoplasms (8). The majority of the cells have a fine granular eosinophilic cytoplasm with less sharply defined cell borders. The outermost layer is typically ciliated and a layer more than six to eight cells thick is rarely formed. In addition, OSPs usually contains numerous cells with sharply delimited and inspissated mucin droplets (8). Most sinonasal papillomas (SP) involve the lateral nasal wall with a lower number of cases involving the maxillary or ethmoid sinuses (9). These lesions are extremely rare in the nasal septum (9). In a study, Inci et al. (4) reported a total of 17 cases with papillomas of whom 14 with inverted, two with OSPs, and one with fungiform subtype. In two patients with OSPs, lesions were located in the lateral nasal wall and maxillary sinus in each.

In clinical practice, patients often present with unilateral nasal obstruction (10). Other signs and symptoms include epistaxis, rhinorrhea, facial pressure, headaches, and polyps (10, 11). In addition, hyposmia and headache are uncommon symptoms (12). They tend to originate from the lateral nasal wall or sinuses, although they may also arise at the nasal septum, lacrimal system, middle ear, or nasopharynx (10, 11).

Chrysovergis et al. (13) found ear effusion in a 56-year-old male case admitted with hearing loss, otalgia, vertigo and tinnitus. Nasopharyngeal examination revealed an OSP which blocked the right eustachian tube. The mass was surgically removed and no recurrence was seen during follow-up. The authors, eventually, reported that this was the first case of nasopharyngeal OSP published in the literature. Unlike the aforementioned case, our case presented with nasal congestion without any hearing problem, although OSP originated from the nasopharynx.

Furthermore, radiographic findings are known to vary with the extent of the disease (14,15). At early stage, only a soft tissue density within the nasal cavity or paranasal sinuses may present (14,15). Later, however, with more extensive disease, unilateral opacification and thickening of one or more of the sinuses are frequently seen with expanded and displaced adjacent structures. Pressure erosion of the bone may also be apparent, which must be distinguished from malignancy-related osseous invasion (14,15). A definitive diagnosis is made by biopsy, although false negativity may occur in certain cases, as these lesions may coincide with benign polyps (16). In our case, MRI scans revealed a smooth mass lesion and CT showed no invasion findings. Although the lesion was suspected to be a polyp, the definite diagnosis was able to be made based on the examination of biopsy specimens.

Although SPs are rare and benign lesions, caution is required due to their malignancy transformation and recurrence potential (1, 2, 17). The rate of malignant transformation of a SP ranges from 10% to 17% (1, 2, 3). The majority of the carcinoma ex oncocytic Schneiderian papillomas are squamous cell carcinomas; however, papillary squamous carcinomas, high-grade mucoepidermoid carcinomas, small cell neuroendocrine carcinomas, and sinonasal undifferentiated carcinomas were also previously described (17, 18, 19).

The treatment of these neoplasms is primarily complete excision. Since most SPs originate from the lateral nasal wall, certain procedures in combination with medial maxillectomy are initially performed (20). Excision can be done through maxillectomy with lateral rhinotomy, transpalatal or midfacial degloving approach (21, 22). In addition, adjuvant radiotherapy can be administered for malignant foci, although it is not recommended in the first-line treatment (8). Also, transmaxillary approach is preferred in patients with SPs which invade the nasopharynx and maxilla (23). Following lateral rhinotomy or Weber-Ferguson incision, maxillectomy can be combined with nasopharyngectomy in case of maxillary invasion (24,25). Furthermore, transpalatal approach is used in low-grade neoplasms which are limited to the nasopharynx (26). A wide range of incision techniques can be performed during transpalatal approach (26). On the other hand, this approach has some disadvantages, including high rate of postoperative fistulas and application in a limited number of patients (26).

In recent years, transnasal endoscopic surgical approaches have become widely used in the treatment of localized SPs, in particular (23, 27). However, although endoscopic approaches have some merits in the diagnosis and treatment of localized SPs thanks to the ease-of-use, the high rates of submucosal invasion limit the success rate (28). In a study, Faizah et al. (29) reported an OSP arising from the left maxillary sinus extending to the middle meatus and nasopharynx in a 78-year-old woman admitted with epistaxis and nasal congestion. The mass lesion was excised using endoscopic medial maxillectomy and no recurrence was seen. Similarly, we used endoscopic surgery rather than transpalatal approach and we completely excised the tumor achieving a better visualization of the nasopharynx with removal of the posterior septum and inferior turbinate. This approach also shortened the length of hospital stay and prevented open surgery-related complications.

In conclusion, although rare, OSPs may originate from the nasopharynx. It should be kept in mind that these neoplasms may recur or become malignant. We recommend transnasal endoscopic surgery in the first-line treatment of these lesions.
Figure 1. Magnetic resonance imaging in axial plane showing a nasopharyngeal mass lesion extending to the choana (white arrow).

Figure 2. (A) A benign neoplasm containing oncocytic cells and papillary morphology (x100, H&E). (B) Gross examination showing finely granular eosinophilic cytoplasm containing oncocytic cells with papillary morphology in the narrow fibrous core. These are typical cells with normochromatic nuclei showing isocytosis and isocaryosis (x400, H&E).

Figure 3. Postoperative view of the nasopharynx at two year.
REFERENCES