Bangladesh J Otorhinolaryngol 2012; 18(2): 215-218

Case Report

Nasal papilloma: A comparison between inverted papilloma and oncocytic schneiderian papilloma

Najihah Hanim Asmi[1], Salina Husain[1], Asma Abdullah[1], Siti Aishah Md. Ali[2]

Abstract:

The Schneiderian membrane gives rise to 3 morphologically distinct tumours: septal, inverted (IP) and oncocytic schneiderian papillomas (OSP). OSP, although, almost parallel to IP, still have its own distinct features in the incidence, location, clinical presentation and histological examination. Despite the differences, the standard treatment is still surgical removal of the tumour. External approach is preferred but in view of advanced endoscopic technique, it is feasible to remove the tumour endoscopically with carefully selected tumour presentation.

Key words : *Inverted papilloma; nose*

Introduction:

The Schneiderian membrane is an ectodermally derived respiratory mucosal lining of the sinonasal cavities and lacrimal apparatus[1]. It is from this membrane 3 types of papillomas that are histologically differing, originating: septal papilloma, inverted papilloma (IP) and oncocytic schneiderian papilloma (OSP). The commonest papilloma is IP (~45-50%), followed by septal papilloma (~45-50%) while OSP accounted for 3-5% occurrence of papilloma[1-5]. Previously, some researchers had assumed all sinonasal papillomas were inverted papillomas but many authors had reported Hyams in 1971 had formulated classification based on histopathogical features that was widely accepted. OSP or cylindrical cell papilloma (CCP) is simply overlooked on physical examination and frequently misdiagnosed as inverted papilloma[3]. Some authors choose to categorize OSP as a form of inverting nasal papilloma, but the lesions are clinically and histologically distinct from each other. Hence, most authors elected to acknowledge OSP's differences in presentation and disease progression [2].

Despite their differences, the treatment is still surgical removal of the tumour mass[4-6]. We are presenting a case of a young man who initial tissue biopsy showed IP and second tissue sample reported as OSP. The differences between the OSP and IP are discussed in this report.

1. Department of Otorhinolaryngology-Head and Neck Surgery, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia.
2. Department of Pathology, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia.

Address of Correspondence: Najihah Hanim Asmi, Department of Otorhinolaryngology-Head and Neck Surgery, University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia, email: asminajihah@yahoo.com

Case report:

A 28-year-old Malay male presented to ORL clinic with history of right nasal mass for 3 months duration. The mass was gradually increasing in size and associated with progressive unilateral nasal blockage, purulent nasal discharge and hyposmia. There was no history of epistaxis. Patient had no past medical or surgical history. He was a chronic smoker.

On examination, there was a smooth and solid mass occupying the right nasal cavity. Left nasal cavity was normal.

A tissue biopsy was performed under LA in the clinic. The histopathological examination revealed an inverted papilloma. A computed tomography (CT) scan of the paranasal sinuses showed a mass lesion in the right nasal cavity extending to the posterior choana and abutting the adenoids. There was opacity of the right sphenoid, ethmoid and frontal sinuses. There was thinning and remodeling of bony structures but no evidence of bony destruction.

Endoscopic sinus surgery and removal of the tumour was performed. Intra-operatively, the mass was rising from the lateral wall of left middle turbinate, extending to the floor of nasal cavity and encroaching the posterior choana. The right maxillary, ethmoid and sphenoid sinuses were filled with polypoidal tissues. The tumour was removed in total. The histopathology revealed Schneiderian papilloma (Oncocytic type). Microscopically, there were both exophytic and endophytic growth patterns of epithelium of 2 to 6 cells thick which composed of tall columnar cells with swollen eosinophilic cytoplasm. The epithelium contained prominent intra epithelial mucous cells. No evidence of malignancy seen. During subsequent follow-up, patient was well.

Discussion:

OSP is equally distributed among the gender and majority of the patients are more than 50 years old (range 33 to 83 years old) [6]. IP is more common in males (ratio male: female is 3:1) and seen in patient aged 20-80 years old[8]. The etiology of OSP is unclear while in the IP, HPV (Human Papillomvirus)[5, 6, 8] and EBV (Epstein-Barr Virus) have been implicated[6]. OSP almost always exists unilaterally on the lateral nasal wall or paranasal sinuses, commonly maxillary and ethmoid. In IP, it arises from the lateral wall of the nasal cavity in particularly at the region of the root of the middle turbinate (80%)[8]. It can extend into the sinuses such as maxillary and ethmoid; and to a lesser extent, the sphenoid and frontal[6]. Clinically, patient with OSP will complain of nasal obstruction and intermittent epistaxis[6, 8]. The nasal mass examination will reveal fleshy, pink, tan, red-brown or gray papillary or polypoid growth[6]. The symptoms of IP are nasal obstruction, epistaxis, hyposmia, headache (frontal) and diplopia[8]. The nasal mass has been described as a mulberry-like uneven surface and a grey-livid colour, but other colours were also described[8].

On histopathology examination, OSP exhibits both exophytic and endophytic growth patterns. Has multilayered epithelium (2-8 cells) and composed of tall columnar cells with swollen, finely granular cytoplasm reminiscent of oncocytes. The epithelium characteristically encloses numerous small cysts filled with mucin or neutrophils (microabscesses)[6]. Meanwhile, IP is characterized by an epithelial inversion into a polypoid, edematous stroma (endophytic growth pattern). The epithelial is predominantly epidermoid (squamous-like) and the epithelium is well-defined from underlying connective tissue. Microscopic mucous cysts are constantly found

throughout the epithelium. The cell surface is commonly lined by a uniform layer of typical, ciliated columnar epithelium[5]. OSP has a higher frequency to become malignant (10-17%) compared to IP (5-10%) but the incidence of OSP is much lower than IP, hence, the number of cases that turn malignant from IP appeared more than in OSP.

This patient had two different types of papilloma diagnosed histologically on 2 separate tissue samplings. This rise the question whether there is a mixed picture of OSP and IP. Kaufmann et al suggested that OSP was more frequently mixed with typical IP rather than presenting in its pure form[7]. The histology features of OSP and IP are fairly similar in certain aspect that causing some authors to class them into one group namely inverted papilloma.

The mainstay treatment for sinonasal papilloma is surgery. Medical treatment has limited role in the treatment of this tumour. It can be used as an adjunct to the some specific complications like sinusitis. Radiotherapy can also be used as an adjunct treatment for certain conditions in which the tumour is incompletely excised or in an advanced disease[6]. In the literatures review, there is no specific staging for OSP but several authors described tumour staging for IP. Krouse in his study had developed a staging system for inverted papilloma: stage I disease is confined in the nasal cavity; stage II disease is limited to the ethmoid sinuses and the maxillary sinuses (medial and superior portions); stage III disease involves the lateral or inferior aspects of the maxillary sinuses or extension into the frontal and ethmoid sinuses; and stage IV disease tumour extends outside the nose and sinuses, as well as any malignancy[9]**.** The tumour can be removed via endoscopic or external approach according to the location and extent of the disease. The external approach like lateral rhinotomy and medial maxillectomy has provided adequate exposure to remove the tumour completely[2, 5, 6]. Together with a thorough removal of all neighboring mucosa of sinonasal passage, the risk of recurrence and possibility of overlooking an associated carcinoma can be reduced. As the sinonasal endoscopic technology and surgical techniques have become more sophisticated, the removal of the tumour via endoscopic approach can be viable. Endoscopic approach for patients with IP by several surgeons reported by Krouse has low recurrence rate but the patients were carefully selected by the surgeons such as the tumour was smaller and easily approachable; and lesions that were confine to the nose, ethmoid sinuses, and medial wall of the maxillary sinus that apparently more amenable via endoscopic approach[9]. In the case, the tumour arising from the lateral wall of middle turbinate and extended posteriorly. No evidence of disease seen in the sinuses, therefore, the complete removal of the tumour can be achieved via endonasal endoscopic approach.

References:

1. Cheng TY, Ueng SH, Chen YL, Chang KP, Chen TM. Oncocytic Schneiderian papilloma found in a recurrent chronic paranasal sinuses. Chang Gung Med J 2006; 29: 336-341.
2. Kennedy KS. Cylindrical cell papilloma of the maxillary sinus. American Journal of Rhinology 1990; 4(5): 185-188.
3. Maitra A, Baskin LB, Lee EL. Malignancies arising in oncocytic Schneiderian papillomas: a report of 2 cases and review of the literature. Arch Pathol Lab Med 2001; 125: 1365-1367.

4. Liu CY, Tsai TL, Hsu CY, Lin CZ. Oncocytic Schneiderian papilloma. J Chin Med Assoc 2004; 67: 255-257.

5. Batsakis JG, Suarez P. Schneiderian papillomas and carcinomas: a review. Advances in Anatomic Pathology 2001; 8(2): 53-64.

6. Barnes L. Schneiderian papillomas and nonsalivary glandular neoplasms of the head and neck. Mod Pathol 2002; 15(3): 279–297.

7. Kaufman MR, Brandwein, MS, Lawson W. Sinonasal papillomas: Clinico-pathologic review of 40 patients with inverted and oncocytic Schneiderian papillomas. Laryngoscope 2002 112: 1372–1377.

8. Eggers G, Muhling J, Hassfeld S. Inverted papilloma of paranasal sinuses. Journal of Cranio-Maxillofacial Surgery 2007; 35: 21–29.

9. Krouse JH. Development of a staging system for inverted papilloma. The Laryngoscope 2000; 110: 965–968.