

## **Inverted Papilloma Isolated in the Nasopharynx**

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**Inverted Papilloma (IP) is an uncommon benign sinonasal neoplasm of a particular interest because of its capacity to recur and undergo malignant transformation. It affects usually the lateral nasal wall, but rarely develops in the nasopharynx. We report a case of a well-defined polypoidal lesion of the nasopharynx presented with decreased hearing secondary to unilateral middle ear effusion. It was completely excised through an endoscopic transnasal approach with no clinical evidence of recurrence. A minimally invasive endoscopic technique was deemed the appropriate surgical procedure for the resection of isolated nasopharyngeal benign lesions.**

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Inverted Papilloma (IP) is a rare benign sinonasal tumor of ectodermal origin, which is locally invasive and has a high tendency for recurrence and transformation into squamous cell carcinoma. It is reported to have an incidence of 5% to 4% of all primary nasal tumors<sup>1</sup>. It arises from the lateral wall of the nose in 90% of cases and rarely from the nasal septum<sup>2</sup>. The most common sinus involved is the maxillary sinus, followed by the ethmoid, sphenoid and the frontal sinus being the least common sinus involved<sup>2</sup>. IP is more common in men than women; it affects white more than black races, and it has its highest incidence in the sixth and seventh decades of life<sup>1</sup>.

However, IP is rarely seen in the nasopharynx. Acevedo-Henao et al reported an incidence of 3% involving the nasopharynx<sup>3</sup>. The symptoms of IP include: unilateral nasal obstruction, nasal discharge, facial discomfort, headache, epistaxis, foul smell, otalgia and hearing impairment<sup>1-3</sup>.

The external approach remains the gold standard for sinonasal lesions because it gives a better exposure, complete excision and low recurrence rates. Advancement in endoscopic technology and imaging facilities in the last two decades made endoscopic resection the preferred technique for most surgeons to clear the disease with a minimal postoperative sequel. Some endoscopic surgeons use the external approach for recurrent cases<sup>1,2,4,5</sup>.

The aim of this report is to present a rare case of nasopharyngeal inverted papilloma.

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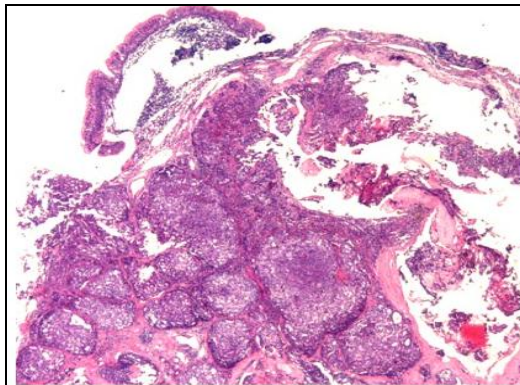
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## THE CASE

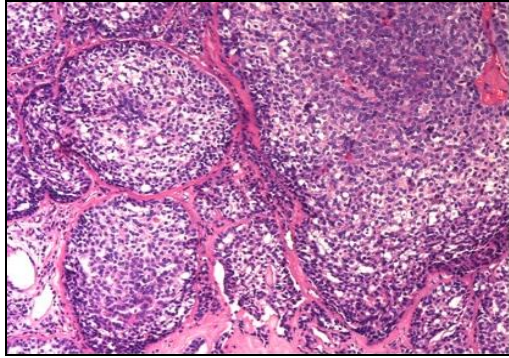
A fifty-two year old man attended the outpatient clinic complaining of decreased hearing in the right ear for the last four weeks. He had no history of nasal obstruction, nasal discharge, nasal bleeding and he was a non-smoker. Ear examination revealed that the right middle ear had serious effusion. Fiberoptic nasopharyngeal examination showed a small fleshy polypoidal lesion located in the posterior wall of the nasopharynx near the right torus tubarius. Neck examination was negative for lymphadenopathy. General physical examination was unremarkable. Chest X-ray and CT scan with contrast of the nasopharynx and neck were reported to be normal. A provisional diagnosis of a small mucosal, non-vascular nasopharyngeal lesion was made.

Through transnasal endoscopic approach, the lesion was found to be involving only the mucosa; therefore, a dissection plane in the submucosa was feasible to excise the lesion completely. The adjacent torus of the eustachian tube was surgically spared because it was not involved. Hemostasis was easily achieved using bipolar diathermy. A grommet tube was inserted in the right tympanic membrane.

Microscopically, there was an endophytic growth arranged in epithelial islands, which were demarcated from the underlying sclerotic stroma, see figure 1. High-power microscopic examination showed glycogenated squamous cells with no mitotic activity or malignant cytological features, see figure 2.



**Figure 1: Photomicrograph Showing Endophytic Growth Arranged in Epithelial Islands, Which Are Demarcated from the Stroma. An Overlying Normal Nasopharyngeal Mucosa Is Present in the Upper Left Corner**



**Figure 2: Photomicrograph Showing Glycogenated Squamous Cells with No Mitotic Activity**

Fiberoptic nasopharyngeal follow-up after 12 months revealed no recurrence and good hearing with the grommet in situ.

## **DISCUSSION**

Although IP is benign, occasionally it could be locally aggressive. Therefore, a complete surgical excision remains a mandatory option for such pathology.

Krouse staged IP involving the nose and paranasal sinuses into four stages<sup>6</sup>:

T1- The disease is limited to the nasal cavity alone.

T2- The disease is limited to ethmoid sinuses and medial and superior portions of maxillary sinuses.

T3- The disease involves the lateral or inferior aspects of maxillary sinus or extension into frontal or sphenoid sinuses.

T4- This stage involves tumor spread outside the confines of nose and sinuses. This stage also includes malignancy.

In our case, IP of the nasopharynx is rare and it has no suggested classification yet. The mass lesion interfered with adequate drainage of the Eustachian tube, which caused the hearing impairment. This symptom made the patient seek an early medical attention.

CT scan is the preferred radiological examination for paranasal sinus but it may fail to detect IP and to differentiate it from chronic sinusitis<sup>5</sup>. MRI, on the other hand, is more superior in delineating the tumor extension into the surrounding soft tissue. T2-weighted images are able to discriminate IP (bright signal) from inflammatory tissues (intermediate signal)<sup>7</sup>. The radiological findings are important to determine the best surgical approach. CT scan and MRI can provide a useful evaluation of IP preoperatively and useful guide to the surgeon for complete excision<sup>7,8</sup>. The lesion in our case was too small and confined to the mucosa; therefore, complete excision was possible.

The advantages of using the minimal invasive endoscopic technique over the traditional en bloc surgical approach include: direct intraoperative visualization of the extent of the tumor, minimal blood loss, shorter hospitalization and avoidance of facial scar. The minimal invasive technique is preferred to the external approach by most endoscopic surgeons, especially for localised lesion<sup>9-11</sup>. Lesions arising from the nasopharynx are more challenging to be excised by the external approach and have an increasing risk of morbidity. On the

other hand, using the endoscopic transnasal approach particularly for small isolated and confined lesion (as in our current case) is recommended with an excellent outcome.

## CONCLUSION

**The present case study described a rare primary isolated inverted papilloma arising from the nasopharynx of a fifty-two year old man who was managed with minimal invasive endoscopic surgery and he had remained recurrent free till now. A conservative endoscopic approach could be used in the management of isolated small and confined inverted papilloma of the nasopharynx with a favorable outcome.**

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