



A Rare Case of a Large Pedunculated Inverted Papilloma Originating from the Nasal Septum and Obliterating the Nasopharynx: Case Report and Literature Review

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Abstract

Inverted papillomas of the schneiderian membrane are benign tumors of the nose with a malignant potential. Their usual site of origin is the middle meatus. We describe a rare case of a large papilloma obliterating the nasopharynx, originating from the nasal septum and supported by a thin pedicle.

Keywords Inverted papilloma · Schneiderian papilloma · Nasal tumors

Introduction

Three types of schneiderian papillomas are currently recognized: Oncocytic, exophytic, and inverted papillomas (IPs), the last accounting for the 62% of all sinonasal papillomas [1].

IPs are benign neoplasms of the nose and paranasal sinuses, potentially containing malignant foci, synchronous or metachronous, in 5–15% of the cases [2]. They are tumors of the middle age constituting about 0.5–4% of all nasal tumors. The male-female ratio is 3–5:1.

Initial symptoms are unilateral nasal obstruction, epistaxis, and recurrent sinusitis. The clinician must suspect the tumor when a unilateral nasal mass is detected during the endoscopy of the nose in the office.

Imaging studies, such as CT and MRI, are necessary to detect bone destruction and to distinguish the tumor from retained nasal secretions. Additionally, in the diagnostic workout, it is necessary to remove a piece of the tumor under local anesthesia in the office to carry out histological examination.

Treatment consists of surgical removal by means of functional endoscopic sinus surgery. The tumor presents a high above 15% potential of recurrency either early or late.

We present a rare case of inverted papilloma originating from the nasal septum and supported by a thin pedicle.

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Case Presentation

A sixty-year-old man suffered for several years from nasal obstruction, recurrent sinusitis, purulent nasal secretions, headaches and loss of smell.

Anterior rhinoscopy revealed septum deviation to the right and small polyps hanging from the left middle meatus combined with purulent secretions.

Endoscopy of the nose revealed a large lobulated grey mass obliterating large part of the posterior left nasal cavity. Ear examination did not reveal any sign of serous otitis.

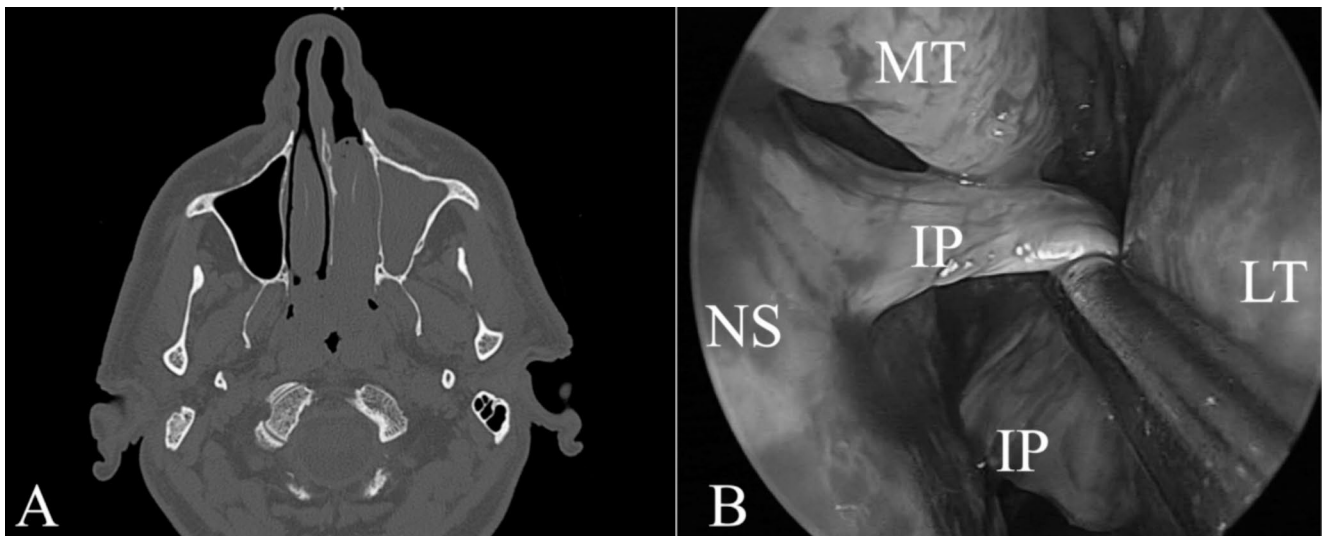


Fig. 1 **A** CT scan depicting complete obliteration of the posterior half of the left nasal cavity and nasopharynx and fullness of the left maxillary sinus **B** Surgical snapshot. NS nasal septum, MT and LT middle and lower turbinate, IP inverted papilloma

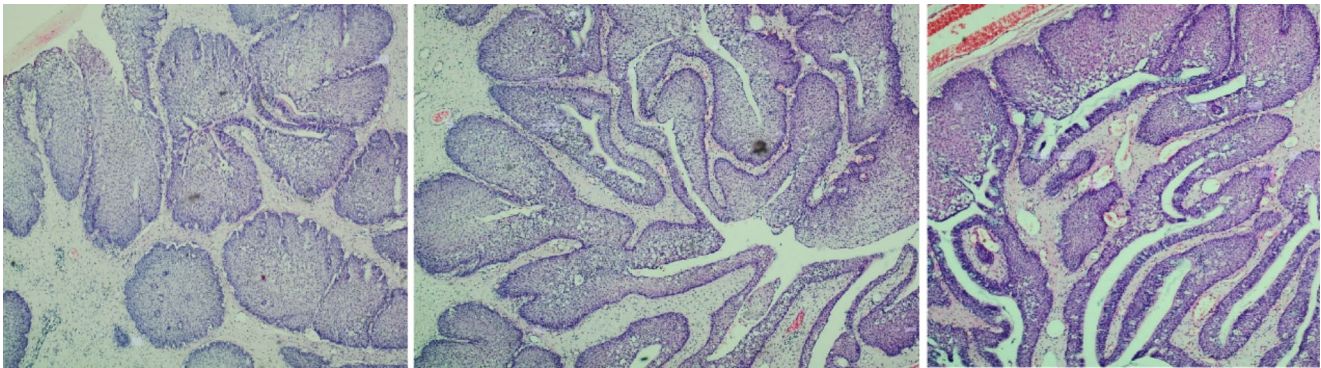


Fig. 2 Histopathological analysis of the specimen. Multiple endophytic transitional epithelial islands are seen with an intact basement membrane

A CT scan was performed which revealed the presence of a large mass completely obliterating both sides of the nasopharynx (Fig. 1). The left maxillary sinus was fully occupied, but there were no signs of bone distortion. Under local anesthesia the tumor was biopsied. Histopathological examination revealed the presence of an IP.

The patient was scheduled for an operation under general anesthesia to restore nasal breathing, straighten the septum, creating a middle antrostomy on the left, and remove the obstructing mass.

IP was removed by the use of an endoscopic shaver, working on the free surface of the tumor through both nostrils. At some point of the resection, the mass regained its mobility and it became clear that the tumor was originating from the middle of the nasal septum supported by a thin pedicle (Fig. 1). The base of the pedicle was removed with a large margin of healthy mucosa together with the underlying perichondrium and periosteum as well as the relevant

part of cartilage and bone leaving intact the mucosa of the healthy side.

Histopathological examination confirmed the diagnosis of an IP (Fig. 2). The patient recovered uneventfully and is free of recurrence more than one year after the operation.

Discussion

The case that we present in this paper had two distinctive and unusual features. It originated from the nasal septum and it was supported by a thin stalk undetected at the initial office examination. Both features are sufficiently documented by intraoperative snapshots.

Indeed, the origin of an IP from the nasal septum mucosa is considered a rare occasion accounting for 9% of all the cases [1, 3, 4]. However, apart from the rarity, the medial origin of the tumor is by far more advantageous regarding its radical removal, as reflected in the most commonly used

classification system for these tumors developed by Krouse [5].

The second unusual feature of our case was that this IP was supported by a thin stalk almost the diameter of a 4 mm suction tube as depicted by the surgical snapshot. Most of the reports in the literature describe tumors with a much broader base requiring wide excision of the site of origin to prevent local recurrences.

Both features of our case confirm the importance of the centripetal removal of the tumor, operating on the free aspects of the tumor surface [6–8]. If we had started the operation by removing the contents of the middle meatus, we would have missed the pedicle of the tumor, violently avulsing it during the efforts of removing the tumor from the nostril or pushing the mass from the nasopharynx towards the oropharynx, augmenting the possibilities for relapse.

The pedicle-oriented removal of the tumor is a well-established technique made available by technical innovations such as the use of endoscopes, powered instrumentations, and the navigation system. Endoscopic-endonasal techniques may provide adequate exposure, bilateral when necessary, and have totally obviated the need for external approaches [9, 10].

Also, one cannot overemphasize the importance of a proper complete preoperative investigation of such cases including imaging studies which reveal the dimensions of the mass and occasionally the origin of the tumor, and of the process of biopsy under local anesthesia which specifies the tumor's identity.

The propensity of the IPs for recurrence and the malignant potential necessitate a follow up schedule. This is particularly necessary in revision cases and in cases with extranasal, intracranial extension. As in the cases of malignancy, follow up may start on a monthly basis but gradually the intervals become larger. Follow up may last for several years as we have documented recurrences even 10 years after initial excision. Nasal endoscopy is the routine examination, but occasionally imaging studies such as CT and/or MRI may also be necessary.

Finally, cases at the extremities of the various histopathological types teach us to expect and get familiarized with the unexpected or the least expected.

Conclusion

A rare case of IP of the nose is presented with two distinct features. The tumor originated from the nasal septum and was supported by a thin peduncle. The complete diagnostic workout helps in the proper design of the surgical removal while the well-established concept of reducing the mass

working on its free surface seeking for the site of origin helps in reducing chances of recurrence.

Author Contributions Anastasopoulos George (Corresponding Author) Conceptualization, data curation, investigation, methodology, project administration, writing– original draft. Emmanuel Apostolou Data curation, software. Grigoriadis George Data curation, software. Pappas Nikolaos Data curation, investigation. Troupis Theodore Methodology, supervision. All co-authors have reviewed and approved of the manuscript prior to submission.

Declarations

Research Involving Human Participants The patient's care and the case presentation was conducted according to the ethical standards of the Department of Anatomy of the National and Kapodistrian University of Athens and the ENT Department of the Metropolitan General Hospital in Athens.

Informed Consent Informed consent for the presentation was obtained from the patient.

Conflicts of Interest The authors have no potential conflict of interest to declare. No funding was received for conducting this presentation.

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