

A Case of a Blocked Nose

Costa Apostolides, BSc, MD '99, Rachael Smith, BSc, MD '99, and Michele Carr, DDS, MD, MEd

Department of Otolaryngology, Dalhousie University, Halifax, Nova Scotia

One afternoon, during a general ENT clinic at the QEII, you encounter a typical otolaryngologic complaint of a “plugged-up nose”. Your patient is a healthy 70-year-old male, Mr. N., who presents with right nasal obstruction worsening over the past year. He states that he has not had any epistaxis or nasal pain, and that his condition was unresponsive to topical steroids (Flonase®). Past medical history in-

cludes bowel cancer which was resected several years ago. On social enquiry, you learn that Mr. N. is a retired miner, a past smoker who quit two years ago, and he drinks alcohol socially. Head and neck examination is unremarkable save for a pale, polypoid mass in the right nostril (Figure 1). A CT scan was ordered (Figure 2).

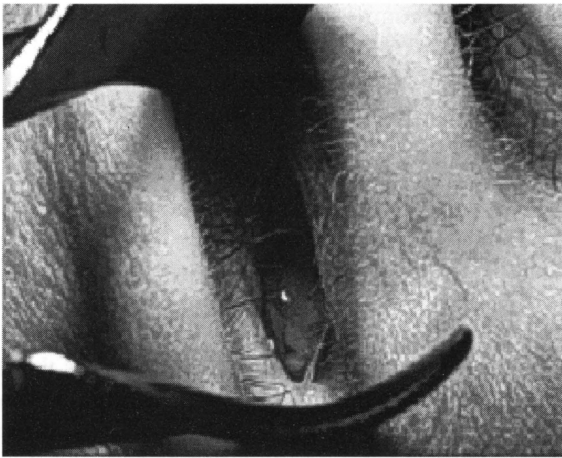


Figure 1
Polypoid mass in right nostril.

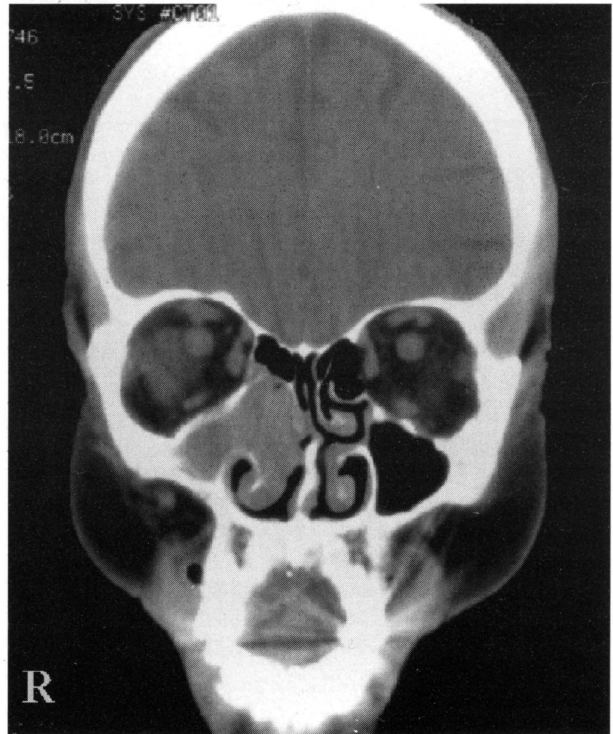


Figure 2
CT scan of head and neck.

Q1: Are the findings on CT consistent with nasal polyps?

Q2: What further diagnostic procedure(s) would you arrange?

Q3: What is the differential diagnosis of nasal obstruction in this age group?

Answers on page 72

DIAGNOSIS- INVERTING PAPILOMA OF THE NOSE

A1: The CT scan shows a soft tissue mass filling the right maxillary sinus and anterior ethmoid cells inferiorly, extending into the nasal cavity. There is erosion of the lateral wall of the nose. The middle turbinate is pushed medially and possibly eroded. The other sinuses are normal.

A2: A biopsy would be important to obtain for pathology.

A3:

Table 1.0 Differential diagnosis of nasal obstruction for adults (> 20 years) (1,2).

Common*	infection (viral or bacterial) allergy (allergic rhinitis, polyps) rhinitis medicamentosa vasomotor rhinitis nasoseptal deformities trauma (septal hematoma) environmental and occupational irritants
Uncommon**	vasomotor rhinitis metabolic-endocrine pregnancy menses hypothyroidism diabetes mellitus drugs (antihypertensives, oral contraceptives, topical decongestants, cocaine) chronic sinusitis (bacterial, fungal) antrochoanal polyp atrophic rhinitis septal perforation benign neoplasms inverting papilloma angiofibroma
Rare***	malignant neoplasm squamous cell carcinoma adenocarcinoma adenocystic carcinoma sarcoma malignant melanoma esthesioneuroblastoma hemangiopericytoma granuloma of pregnancy foreign body rhinolith Paget's disease midline lethal granuloma Wegener's granuloma Churg-Strauss syndrome sarcoidosis superior vena cava syndrome Horner's syndrome cirrhosis uremia nonallergic rhinitis with eosinophilia syndrome

*common: nasal diseases in this group are seen daily in a general otolaryngology practice.

**uncommon: one or more cases per year.

***rare: one or more cases in a physician's experience.

Inverting papilloma is a relatively uncommon neoplasm of the nasal and paranasal sinus epithelium. It is 25 times less common than ordinary nasal polyps, appearing most often in the fifth to seventh decades of life (3). Many other terms have been used to describe this tumor, such as villiform cancer, epithelial papilloma, Schneiderian papilloma, and papillary sinusitis (4). This is probably due to the variability of histological interpretations of the lesion, as well as a misunderstanding of its behavior since it was first described by Ward in 1854 (5).

These tumors usually arise from the lateral nasal wall with local extensions in the paranasal sinuses, most commonly the maxillary antrum. They are usually firmer, bulkier and more vascular than inflammatory polyps. Non-translucent, inverting papillomas appear red, pale pink, or gray in colour. When viewed microscopically there is a proliferation of the covering epithelium with finger-like invaginations into the underlying stroma (6). The epithelium can be squamous cell, ciliated multilayer columnar cell resembling respiratory epithelium, or transitional.

Symptoms of inverting papilloma are non-specific, but the most common is unilateral nasal obstruction. Others are epistaxis, nasal discharge, sinusitis, nasal polyps, and more rarely, facial pain and proptosis (6,7,8). Interestingly, many patients have a history of nasal surgery prior to diagnosis of inverted papilloma, which may be due to misdiagnosis (6,9).

Radiographic studies include plain films and sinus tomography, but computed coronal tomography is the procedure of choice as it reveals a higher percentage of bone destruction and erosion (6,8). Although radiographic analysis helps to determine the extent of disease, it does not clearly distinguish malignancy from benign disease. For this reason it is important to confirm the diagnosis through biopsy.

The etiology of inverting papilloma is unknown. The most popular theory is that the human papilloma virus (HPV) is involved in the development of these tumors. One study showed the presence of viral DNA sequences in the tumors of 76% of patients with inverting papilloma (6). Further analysis is needed for proof of cause.

It has been found that these neoplasms are best treated with lateral rhinotomy and medial maxillectomy as the recurrence rate is much lower than with other modalities (6,9,10). Other procedures include local excisions (6), midfacial degloving (7,11), Caldwell-Luc operation with ethmoidectomy (9), and endoscopic excision (11).

It is important inverting papilloma be identified and removed as it is not only locally invasive with a tendency toward recurrence, but there is a well-known association with squamous cell carcinoma. Reported incidence of associated carcinoma ranges from 1.7% to 56%, depending upon the study (12).

REFERENCES

1. May M and West JM. The "stuffy" nose. *Otolaryngol Clin North Am* 1973;6:655-674.
2. DeSanto LW. "Neoplasms" In: Cummings CW, et al. *Otolaryngology - head and neck surgery*. St. Louis: Mosby-Year Book, 1993.
3. Snyder RN and Persin KH. Papillomatosis of Nasal Cavity and Paranasal Sinuses, Inverted Papilloma, Squamous Papilloma. *Cancer*, 30:668-690, 1972.
4. Urabec, DP. The Inverted Schneiderian Papilloma. A Clinical and Pathological Study. *Laryngoscope* 1975;85:186-220.
5. Ward N, cited by Brown B. The Papillomatous Tumors of the Nose. *J Laryngol* 1964;78:889-905.
6. Phillips PP, Gustafson, RO, and Facer, GW. The Clinical Behavior of Inverting Papilloma of the Nose and Paranasal Sinuses: Report of 112 Cases and Review of the Literature. *Laryngoscope* 1990;100:463-469.
7. Sanford RD, Vijay DZ, Casiano RR, and Maniglia AJ. Different Options for Treatment of Inverting Papilloma of the Nose and Paranasal Sinuses: A Report of 41 Cases. *Laryngoscope* 1992;102:231-237.
8. Buchwald, C., Inverted Papilloma: A Follow-up Study Including Primary Unacknowledged Cases. *Am J Otolaryngol* 1989;10:273-281.
9. Segal K, Atar E, Mar C, Sidi J, Har-El G. Inverting Papilloma of the Nose and Paranasal Sinuses. *Laryngoscope* 1986;96:394-398.
10. Bielowicz S, calcaterra TC, and Watson D. Inverting Papilloma of the Head and Neck: the UCLA Update. *Otolaryngol Head and Neck Surgery* 1993;109: 71-76.
11. McCary WS, Cross CW, Reibel JF and Cantrell RW. Preliminary Report: Endoscopic versus External Surgery in the Management of Inverting Papilloma. *Laryngoscope* 1994;104:415-419.
12. Lawson W, Lebenger J, and Som P. Inverted Papilloma: An Analysis of 97 Cases. *Laryngoscope* 1989;99:1117-1124.

ERRATA

Several publishing errors occurred in the December 1997 edition of the *DMJ*. The *DMJ* editorial board sincerely apologizes for these mistakes and any problems they may have caused.

1) Dr. T.J. Marrie's name erroneously appeared on the masthead (page 5) with one 'r' instead of two.

2) The Nova Scotia Medical Society was omitted from the masthead. This has been rectified on the current masthead.

3) An advertisement on page 6 was printed with a number of typographical errors. The corrected advertisement is shown below.

Grenfell Regional Health Services

If you are a General Practitioner or Specialist who has an interest in working in a rural environment, then you may be the type of physician that Grenfell Regional Health Services is seeking to join our multidisciplinary health care team which provides integrated care for the people of Northern Newfoundland and Southern Labrador.

Salary scales for General Practitioners range from \$67,471.00 to \$99,960.00 yearly. Specialist salaries range from \$84,975.00 to \$102,506.00 yearly. Depending on location, physicians are also eligible for a non-pensionable geographic supplement of \$15,600.00 to \$31,200.00 per year and a retention incentive of \$10,000.00 to \$20,000.00 which is paid at the end of two years.

Dr. Jez Hillard

Director of Medical Services
Grenfell Regional Health Services
St. Anthony, Newfoundland
A0K 4S0

Tele: (709) 454-3333, Ext. 127

(709) 454-8596 (Home)

Fax: (709) 454-2052

E-Mail - jhillyard@thezone.net