

CASE REPORT

Intranasal masses resembling malignant tumors

Dragos Octavian Palade, Mihail Dan Cobzeanu, Marta Petronela Circiu, Irina Deaconiuc, Andrei Luca, Bogdan Mihail Cobzeanu

ENT Department, "Sfantul Spiridon" Emergency Hospital, Iasi, Romania

ABSTRACT

Nasosinusal malignant tumors have a low incidence, representing less than 1% of all human malignant pathologies and almost 3% of head and neck cancers. This group of tumors represents a minority of diseases characterized by unilateral progressive nasal obstruction and recurrent epistaxis. The authors present the case of a 27-year-old male patient in whom the clinical and paraclinical symptoms and signs were characteristic for a malignant tumor. The tumor was successfully removed through lateral rhinotomy and the excised mass was sent for the histopathological examination. Despite the clinical, imagistic and intraoperative appearance, the final diagnosis was nasal polyposis.

KEYWORDS: nasosinusal tumor, deformity, paranasal rhinotomy, nasal polyposis

INTRODUCTION

Tumors of the nasal cavity and paranasal sinuses can have benign or malignant nature. Nasosinusal malignant tumors have a low incidence, representing less than 1% of all human malignant pathologies and almost 3% of head and neck cancers¹. This group of tumors represents a minority of diseases characterized by unilateral progressive nasal obstruction and recurrent epistaxis. Considering the progressive growth of the tumors, the deformity of the nasal bones and face can be present. In rare cases, if the tumor expands to the brain, neurological disorders can be seen^{2,3}.

The diagnosis of intranasal tumors is frequently established based on the clinical, paraclinical and histopathologic results. The craniofacial CT scan remains the main preoperative tool used to explore the margins, origins and dimensions of the intranasal mass and also gives an early diagnosis⁴.

CASE REPORT

A 27-year-old male patient known with a mild retardation presented in our ENT Department with persistent and complete right nasal obstruction, ac-

companied by recurrent right epistaxis, fetid rhinorrhea and right lagophthalmos. The symptoms presented a progressive development during the last year, with a deformation of the right paranasal region in the past three months. No treatment was followed (Figure 1).

The clinical evaluation (anterior and posterior rhinoscopy) revealed an ulcerated, easily bleeding tumor entirely occupying the right nasal fossa, covered with fetid secretions, blocking the right choanal opening, with rhinopharynx extension. The mucosa of the ceiling and the lateral wall of the rhinopharynx had an infiltrated aspect and it was covered in pus.

The blood cell count was normal except for leucocytosis (11.000/mm³), neutrophilia (84%) and modified erythrocyte sedimentation rate (30 mm at 1 hour and 61 mm at 2 hours).

The cranio-facial CT scan showed an expansive mass with soft tissue density, almost completely occupying both nasal cavities and the right maxillary sinus, the right ethmoidal cells and the right frontal sinus. The tumor caused osteolysis of the internal wall of the maxillary sinus. Posteriorly, the mass presented prevertebral extension with invasion of the rhinopharynx and the sphenoidal sinus. No laterocervical adenopathy could be seen (Figure 2).



Figure 1 Patient L.F., 27-year-old - deformation of the right paranasal region



Figure 2 Crano-facial CT scan, axial slices – invasion of the right frontal and maxillary sinuses and of the rhinopharynx

Being characteristic for a malignant process, the clinical and paraclinical aspect of the tumor lead to the preoperative diagnosis of right nasosinusal malignant tumor.

Considering the high bleeding potential of the tumor, we decided to perform first the ligation of the right external carotid artery, in order to reduce the hemorrhagic complications. Afterwards, an open surgery by lateral rhinotomy (Moure procedure) with large limits of resection was performed (Figure 3). The intraoperative aspect of the tumor was of soft consistency, of polypoid type, with hemorrhagic areas and lyses of the surrounding walls.

The histopathological examination of the excised mass (Figure 4) revealed fragments of respiratory mucosa with diffuse polymorphic inflammatory process in the chorion and numerous giant cystic dilatations with

mucus retention, with no malignant tumoral aspects. The aspect was suggestive for a nasal polyp with hyperplasia of the mucus secreting cells and pseudocysts pattern.

DISCUSSIONS

Intranasal tumoral masses can appear due to a local inflammatory process or as the result of a tumoral differentiation of the nasal cavities tissues. Still, the incidence of malignant nasal processes is low compared to the variety of intranasal tissues. Nasal chronic inflammatory diseases, like rhinosinusal polyposis, remain a pathology with an unclear etiology and a rich and diverse symptomatology that can resemble that of malignant tumors⁵⁻⁸.

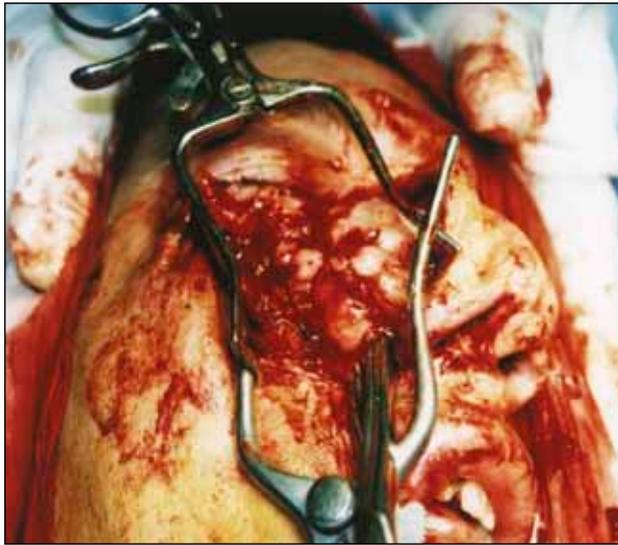


Figure 3 Lateral rhinotomy – intraoperative view

The pathology of the nasal cavities requires a detailed examination of the paranasal sinuses, the intracranial fossae, the pterygopalatine and pterygomaxillary fossae, the orbit and of the infratemporal cavity, the level of invasion radically influencing the therapeutic and surgical approach^{3,5,8}.

According to Maffe M. F., the tumors of the nasal cavities or the paranasal sinuses are around 70% benign and 30% malignant. Among these lesions, malignant intranasal tumors most likely originate from the maxillary sinus, the squamous cell carcinoma being the most frequent form (80%), while adenocarcinomas and adenoid cystic carcinomas are rare (10%)⁵.

Although the diagnosis of intranasal masses is highly suggestive after clinical examination and imagistic investigations, there are still some intriguing cases in which the histopathological result is completely different from the clinical and paraclinical diagnosis. The imagistic examination is among the most important means of diagnosis, allowing the surgeon to evaluate the correct extension of the tumor and choose the right surgical approach to remove the mass⁹⁻¹¹.

In advanced intranasal and paranasal sinuses malignant tumors, the radiological examination shows in most cases bone destruction and adjacent tissue invasion. The same aspect was found in our case. In this particular case, the most useful surgical approach was the external one (lateral rhinotomy), allowing a good evaluation of the tumor extension and a good resection.

The patients with nasal and paranasal sinuses malignancies have a poor prognosis. So, the efforts of the practitioners aim to enhance the imagistic methods of investigation in order to ensure an early and accurate diagnosis^{1,5}.



Figure 4 The excised tumoral mass

Despite the information and help given nowadays by imaging techniques (CT, MRI, and selective arteriography), the surgeon can still encounter “intraoperative surprises”¹².

CONCLUSIONS

The case illustrates a discrepancy between symptoms, biological data, the intraoperative appearance of the tumoral mass and the histopathological result.

Before the specific malignant changes develop (osteolysis, perineural or perivascular invasion, adenopathies, metastatic dissemination - the liver, lungs, bone), the tumor behaves like a chronic inflammatory process or a benign tumor. A close collaboration between the surgeon, the radiologist and the anatomopathologist is mandatory for a quick and accurate decision on the therapeutic plan.

Surgery is important both as a mean of diagnosis, as happened with the presented patient, but also as a mean of therapy (complete or partial ablation of the tumor) in the context of multimodal treatment - surgery, chemotherapy and radiotherapy.

REFERENCES

1. Serre I., Baldet P. - Classification des tumeurs malignes primitives naso-sinusiennes de l'adulte. *Les cahiers d'ORL*, 1998;8:407-413.
2. Ketcham A.S., VanBuren J.M. - Tumors of the paranasal sinuses: a therapeutic challenge. *Am. J. Surgery*, 1985;150:406.
3. Cummings C.W. - *Otolaryngology, head and neck surgery*. 3-rd edition. Mosby, New York, 1998.
4. Mafee M.F. - Nonepithelial Tumors of the Paranasal Sinuses and Nasal Cavity. *Role of CT and MR Imaging*. *Radiologic Clinics of North American*, 1993 Jan;31(1):75-90.

5. Ballenger J.J. – Diseases of the nose, throat, ear, head and neck. Lea & Febiger, London, 1991.
6. Onerci T.M., Ferguson B.J. - Nasal Polyposis. Pathogenesis, Medical and Surgical Treatment. New York: Springer, 2010.
7. Peynegre R., Coste A. - Polypose naso-sinusienne chez l'adulte. *Encycl Med Chir Oto-rhino-laryngol.*, 1994;A10:20-395.
8. Lee H.M., Choi G., Choi C.S., Kim C.H., Lee S.H. - Inflammatory pseudotumor of the maxillary sinus. *Otolaryngology-Head and Neck Surgery*, 2001Nov;125(5):565-566.
9. Som P.M., Brandwein M.S., Maldjian J.A., et al. - Inflammatory pseudotumor of the maxillary sinus: CT and MR findings in six cases. *Am. J. Roentgenol.*, 1994;163:689-692.
10. Rinia A.B., Kostamo K., Ebbens F.A., et al. - Nasal polyposis: a cellular-based approach to answering questions. *Allergy*, 2007;62(4):348-58.
11. Couto L.G., Fernandes A.M., Brandão D.F., et al. - Histological aspects of rhinosinusal polyps. *Rev. Bras. Otorrinolaringol* 2008;74(2):207-12.
12. Takimoto T., Kathoh T., Ohmura T., et al. - Inflammatory pseudotumor of the maxillary sinus miming malignancy. *Rhinology*, 1990;28:123-127.