

**CASE REPORT****Chondrosarcoma of the sphenoid sinuses and skull base****Codruț Sarafoleanu<sup>1</sup>, Claudiu Manea<sup>1</sup>**<sup>1</sup>ENT&HNS Department, „Sfanta Maria“ Hospital, Bucharest, Romania**ABSTRACT**

**OBJECTIVE:** Sphenoidal chondrosarcoma is an uncommon malignant lesion with approximately 50 cases previously reported in the medical literature. Surgical excision is usually sufficient for low-grade lesions, whereas a combination between surgical and adjuvant therapy is usually recommended for high-grade lesions.

**MATERIAL AND METHODS:** The authors present a case of a 60-years-old woman with a chondrosarcoma arising in the sphenoid sinus extended to the nasal septum and skull base.

**RESULTS:** The diagnostic and therapeutic algorithm is presented.

**CONCLUSIONS:** We decided for a transnasal endoscopic approach with a subtotal resection due to the fact that the clivus and the internal carotid artery and optical nerve were involved. Postoperative adjuvant treatment was recommended (radiotherapy and chemotherapy). There was no evidence of local recurrence two year after therapy, but at 25 months postoperative, the patient developed multiple bony metastasis.

**KEYWORDS:** chondrosarcoma, endoscopic resection, sphenoid sinus.

**INTRODUCTION**

Chondrosarcoma this very rare tumor arises from bone and is composed of cartilage<sup>1</sup>. It is the malignant variant of the benign chondroma and is a locally invasive tumor. This tumor rarely metastasizes, and is relatively slow growing. Its most common site is the sphenoid bone or clivus, at the base of the skull. The chondrosarcoma is more common in male adults<sup>2</sup>. Standard treatment is surgical removal which might be followed by radiation and chemotherapy.

**CASE REPORT**

A 60 years old female patient presented in our Department for bilateral nasal obstruction (complete nasal obstruction on the right side and near complete on the left) and purulent rhinorrhea. 6 months ago she was operated on (in a different hospital) for chronic obstructive rhinitis. After that operation she experienced no amelioration of her nasal condition moreover she related the worsening of the nasal breathe and the appearance of a nasal purulent discharge.

The physical examination completed by a nasal endoscopy revealed a near - total lack of the inferior turbinate and a complete stenosis in the posterior third of the right

nasal cavity (Figure 1). On the left side it was also a stenosis in the posterior three third of the nasal fossae but a 2,7mm endoscope could pass through. The superior rhinopharyngeal wall was bulging.

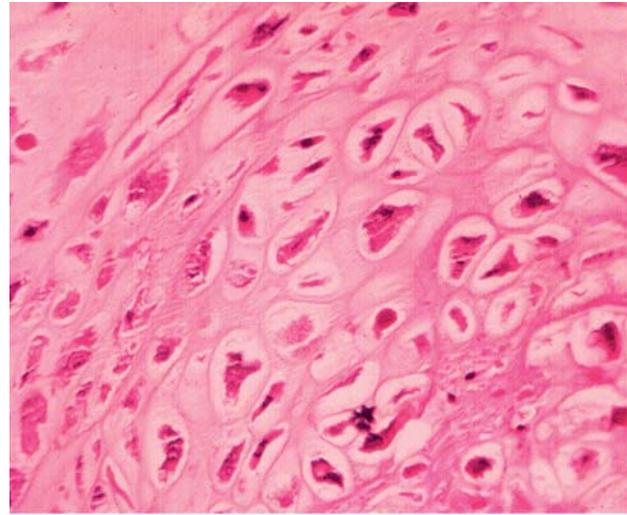
After a routine examination we decided to operate on the patient to remove the scar tissue and to recalibrate the nasal cavities. During the operation we discovered a large tumor involving the posterior three third of the nasal septum, the sphenoid sinuses and the posterior wall of the rhinopharynx. While the frozen sections were unclear we decided to stop the procedure. The histopathologic examination revealed a grade II chondrosarcoma (Figure 2).

In this period of time the patient was referred to the CT-scan examination. Imaging was strongly suggestive for a chondroid sphenoidal tumour with bone erosion of sphenoid, pterygoid process, and extension toward posterior wall of bilateral maxillary sinuses and posterior ethmoid and also multiple cerebral calcifications tumor (Figure 3).

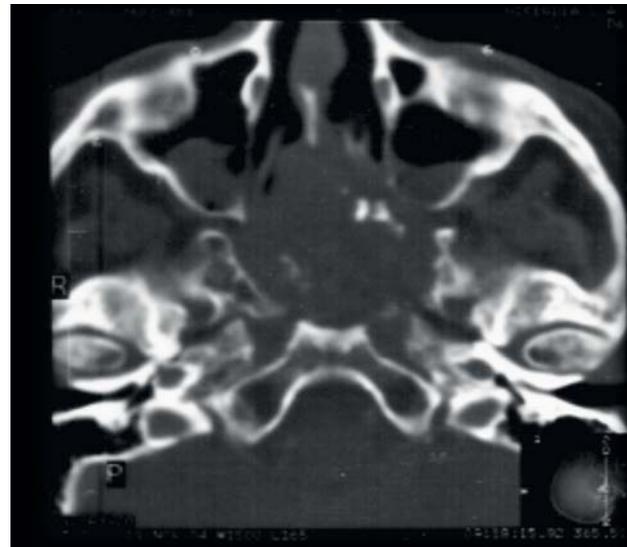
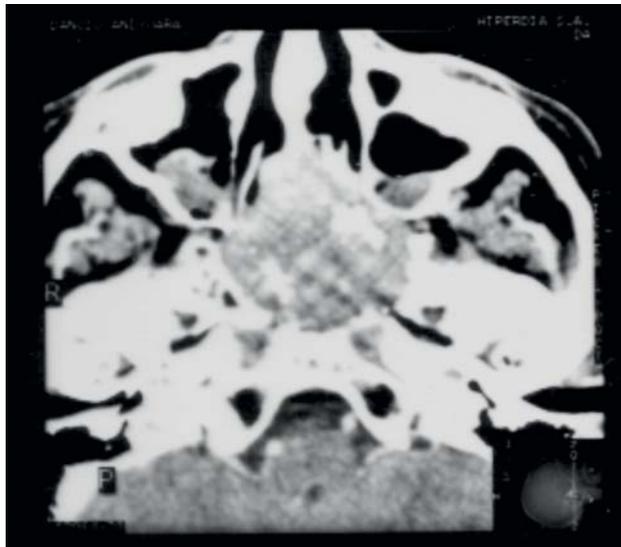
After that, together with the oncologic staff, we decided that the best therapeutic strategy is the surgical removal of the tumor followed by a combined treatment consisting in radiotherapy and chemotherapy. The surgery was performed under general anesthesia consisting in a transnasal endoscopic approach with a subtotal resection due to the fact that the clivus and the internal carotid artery and op-



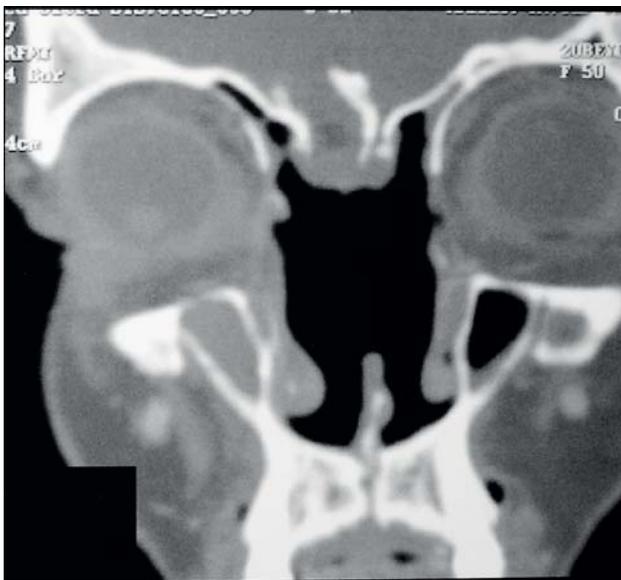
**Figure 1** Endoscopic exam – complete posterior nasal fossae stenosis



**Figure 2** Histopathologic details of the chondrosarcoma



**Figure 3** CT scan axial sections illustrating the extension of the tumor



**Figure 4** Postoperative CT scan showing the extension of the surgery

tical nerve were invaded. The postoperative period was free of complications (Figure 4). 21 days after the surgery, the patient underwent radiotherapy and chemotherapy.

In the follow up period, a nasal endoscopy was performed at 1 month, 3 months postoperative, and after that at each 3 months. There were no signs of local recurrence or distant metastasis until 25 months postop. when the patient developed multiple bony metastasis (lumbar spine, iliac and femoral bone). She underwent once again chemotherapy and the results were good for a period of 14 months, after that the patient didn't come to other visits.

## DISCUSSIONS

Sinusal chondrosarcoma are rare tumors which tend to appear especially in the 4 and 5 decades of life<sup>1,3</sup>. They have a slow growth and the tendency to erode the skull base.

We decided to present this case because the symptoms

and the clinical appearance were suggestive for nasal fossae stenosis due to an inappropriate surgical technique used for the resection of the inferior turbinate.

The tumor discovered intraoperatively behind the stenosis and the lack of a CT-scan before the operation delayed the surgical procedure. CT scan usually demonstrates a hypodense mass with areas of spotty calcification, and it can determine the extent of the bony destruction.

The usual oncologic algorithm was used to approach the patient just after receiving the result from the histology.

We just want to emphasize on the fact that because in appearance the case was very clear, we considered that the clinical and endoscopic examination and a Hirtz radiography (which was absolutely not suggestive) were enough for dealing with a iatrogenic bilateral stenosis of the nasal fossae.

The second important point is the extension of the tumor and, despite this, the choice for an endoscopic resection. A subtotal endoscopic resection was performed due to the fact that the clivus and the internal carotid artery and optical nerve were involved followed by postoperative adjuvant treatment, with good local control of the disease, with no signs of local recurrences in the follow up period.

Reviewing the literature, we found out only few references regarding the endoscopic approach of the sphenoid and skull base chondrosarcoma. Most of the authors recommend the cranio-facial approach or the combined techniques<sup>1,2</sup>.

Prognosis of chondrosarcoma depends on grade, site of involvement and extension and accuracy of the initial resection. Five year survival rates for CS of all body regions were estimated to be 90%, 81% and 43% for grade 1,2 and 3, respectively<sup>4</sup>.

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