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CLINICAL CASE

A ten-year evolution of frontal sinus ossifying fibroma - case report

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ABSTRACT

OBJECTIVE: Sinusal ossifying fibroma is a rare, benign neoplasm, that generally occurs in the third and fourth decades of life . Endoscopic findings are usually unremarkable. Our purpose is to explore a safe and effective therapeutic method for frontal sinus ossifying fibroma resection.

MATERIAL AND METHODS: The authors present a case of a 60-year-old woman with a ossifying fibroma arising in the right frontal sinus extended to the frontal recess and the right superior orbital edge.

RESULTS: The diagnostic and therapeutic algorithm is presented.

CONCLUSIONS: We decided for a combined surgical approach, classic and endoscopic, with total macroscopic resection of the frontal sinus tumor. Computed tomography and magnetic resonance imaging were useful in identifying the lesion and its extension into the intracranial cavity. Postoperative symptoms and quality of life improves.

KEYWORDS: ossifying fibroma, combined surgical approach, frontal sinus.

INTRODUCTION

Ossifying fibroma is a mesodermal, non-odontogenic tumor of ectopic multi-potential periodontal blast cells[1]. It is an aggressive tumor because of its local destructive potential and its high recurrence rate. It has a higher incidence in the third and fourth decades[2], and it most commonly affects males. The most frequent site where this tumor appears is the mandible[3] , but there were case reports of ossifying fibromas of the maxillary bone[1,3,4], the zygomatic bone[1], the temporal bone[5], the orbit and paranasal sinuses[1,3,4]. When it affects the sinuses, recurrence is usually the rule.

CASE REPORT

A 60-year old female presented in our clinic complaining of diffuse, intermittent headaches which appeared almost 10 years before the consult. The headaches became permanent for about 2-3 years according to the patient, and they did not respond to any analgesics or anti-inflammatory drugs. Also, the patient was complaining of chronic nasal obstruction, loss of smell and anterior-posterior mucous nasal discharge.

The clinical examination of this patient revealed a slight facial asymmetry and a right supra-orbital tumor mass. The tumor was hard, non depressible. Nasal endoscopy showed a hypertrophied agger-nasi cell on the right side, mucous secretions on both sides, without any other notable modifications.

The computed-tomography scan of the nose and paranasal sinuses revealed a large, heterogeneous mass, with both fibrous and osteosclerotic components, in the right frontal sinus and extended to the right fronto-ethmoidal recess (Figure 1). The examination also showed a thickening of the mucosa of the right frontal sinus walls and a regional asymmetry (Figure 2).

The surgical act was combined classic and endoscopic approach.

Through the classic approach we made an incision in the right eye-brow, we dissected the sub-tegumental tissues and fascia and reached the anterior wall of the right frontal sinus. The right frontal sinus was opened through its anterior wall and a bone cover of about 3/1,5 cm was preserved to cover it up. The endo-sinusal space was then fully exposed and revealed the magma-like tumor that occupied the whole sinus cavity and all of its extensions. The tumor was excised from the right frontal sinus cavity by drilling and curettage. The natural communication between the frontal sinus and the nasal cavity was re-established using a micro-drill on the inferior wall of the frontal sinus, dilating the natural sinus ostium and endoscopic ensuring the permeability of the frontal recess (Figure 3). The tumor was

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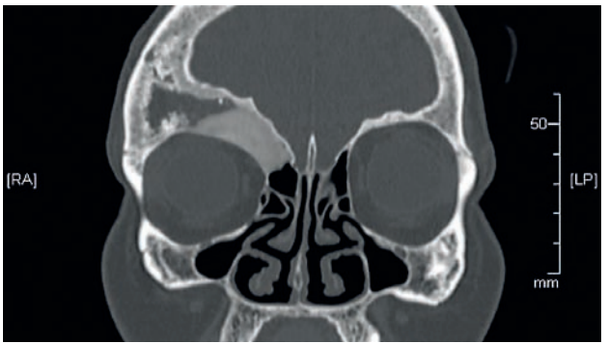

Figure 1 Computed-tomography frontal section showing the right frontal recess completely blocked by the tumor mass

sent for histological examination, which established the diagnostic: ossifying fibroma.

The remaining cavity was filled with a sterile absorbable gelatin sponge, the anterior wall of the frontal sinus was closed with the bone cover that we preserved, and the soft-tissues were closed in an anatomical way.

To ensure a good ventilation of the sinus, a surgical drain was mounted, sutured on the columella and it was kept in place for three weeks.

After the operation the patient's quality of life was highly improved by the complete disappearance of all of her symptoms.

DISCUSSIONS

1. Prolonged headaches, which do not respond to analgesics and anti-inflammatory drugs need to be carefully investigated, and a complex imaging evaluation is helpful in these cases, where a rhino-sinusal pathology is also possible.
2. The sinusal pathology, especially the tumors, through their site and extension (it can be evaluated with CT/MRI), they put the surgical indication and determine the operative technique.
3. In the surgical approach of frontal sinus tumors, we prefer a combined classic and endoscopic technique, because it provides a better exposure of the endo-sinusal cavity (classic approach) and it re-establishes the physiological communication between the frontal sinus and the nasal cavity (endoscopic approach). This gives a great advantage in the ventilation and good function of the sinus.
4. The histological analysis of the tumor (ossifying fibroma) lets us to expect recurrence of the tumor. Yet we consider that a proper ventilation of the frontal sinus cavity could prevent the recurrence of the tumor by ensuring a physiological function of the sinus.

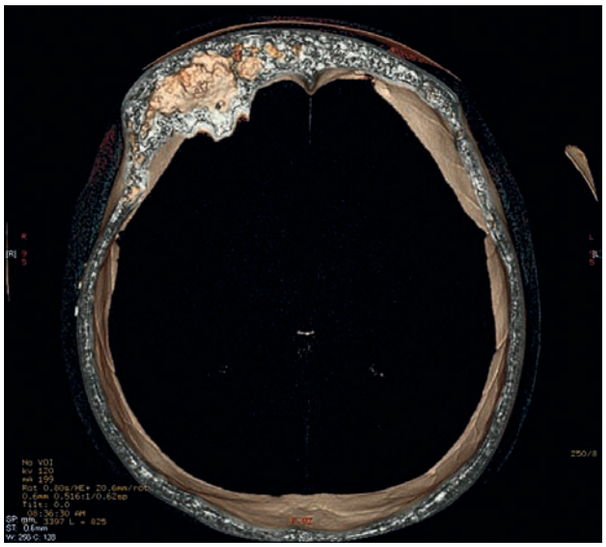

Figure 2 Computed-tomography volumetric reconstruction showing the extension of the tumor in the right frontal sinus and its walls

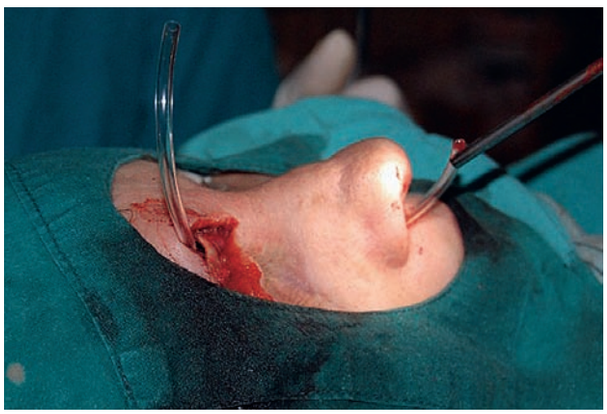

Figure 3 Image showing the surgical drain that was mounted to ensure a good ventilation of the frontal sinus. Note that the drain was inserted after the communication between the frontal sinus and the nasal cavity was re-established.

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