COMBINED APPROACH FOR LARGE MALIGNANT TUMORS OF THE NOSE AND PARANASAL SINUSES – CASE REPORT

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COMBINED APPROACH FOR LARGE MALIGNANT TUMORS OF THE NOSE AND PARANASAL SINUSES – CASE REPORT (Abstract): Due to the insidious onset and common symptoms, the diagnostic of sinonasal tumors is late in the evolution. Usually, at that time, the preferred endoscopic approach alone is not recommended, therefore a mixed open-endoscopic approach appears to be the best choice in terms of exposure of the tumor and a clear margin resection. The purpose of this case report study is to demonstrate the necessity of careful preoperative assessment and the advantages of combined approach for a complete resection and favorable long-term results. Keywords: COMBINED APPROACH, NASAL ENDOSCOPY, AUTOLOGOUS GRAFT, SINONASAL TUMORS

Sinonasal malignancies are quite rare (5:100000 rate in USA – 1% of all cancers) affecting women and men with equal rates, usually in the 6th decade of their life. The diagnostic is made late in the evolution due to the insidious onset and common symptoms (nasal obstruction, mucous rhinorrhea, sometimes recurrent minor nasal bleeding), therefore surgery – if still possible – needs open approaches to allow a wide exposure of the tumor. The endoscopic approach is rarely used alone, usually completing the open approach, allowing in the same time a better control of the excision margins.

We are reporting a case of a male patient diagnosed with a large tumor occupying the nose, paranasal sinuses and operated using a double approach (open and endoscopic) allowing a good control of the excision. The importance of preoperative assessment of the extent of the tumor and the best approach chosen are discussed.

CASE REPORT

D.D. a 53 years old male patient was admitted in ENT Department of the “Sf. Spiridon” Clinical Emergency Hospital Iasi, for bilateral nasal obstruction, mucous and purulent rhinorrhea, minor recurrent nasal bleeding on the left side, frontal headache, complete loss of smell, with an
onset 18 months before. 12 months before he was operated in a different ENT Department for nasal polyposis but no histopathological evidence was present at the time of actual admittance in the hospital.

The anterior rhinoscopy revealed a large purple, irregular, covered with puss, easily bleeding when touched mass, that could suggest some confluent polyps, and is blocking completely the left nasal fossa in its posterior 2/3 and almost completely in the anterior 1/3. The posterior rhinoscopy showed the complete blockage of the left choana and the protrusion of the mass to the nasopharynx.

The CT scanner revealed the presence of a large solid mass involving the left nasal fossa, ethmoid and frontal sinuses (fig. 1) with some small areas of bone erosion on the anterior skull base and the posterior wall of the left frontal sinus (fig. 2).

![Fig. 1. CT scanner showing the tumor](image1)

![Fig. 2. CT scanner showing bone erosion areas](image2)
The complete removal of the tumor was performed using a combined approach – both open subcranial and endoscopic approach. The subcranial approach required the removal of a segment from the frontal bone (fig. 3) and due to the erosions of the posterior wall of the frontal sinus and the exposure of the duramater, the frontal sinus cavity was filled with an autologous abdominal fatty tissue graft (fig. 4).

**Fig. 3.** External subcranial approach exposing the tumor; probe in the right frontal sinus

**Fig. 4.** The cavity left after resection; autologous abdominal fatty tissue graft

The histopathological examination revealed an inverted Schneiderian type papilloma. The postoperative evolution was good allowing the patient to be discharged after 4 days. The periodic follow-up showed no recurrence after 2 years.

**DISCUSSION**

The surgical approach of sinonasal tumours is not standardized and it has to be individualized for each patient, considering the extension. Due to the patient’s late visit to the otolaryngologist and the large extensions of the disease, endoscopic surgery alone rarely solves the case. However, it can very often be a reliable resource in ensuring an accurate excision. This happens when the extensions are towards the orbit, sphenoidal sinus, pterygomaxillary
cavity, which is difficult to reach and control through external approach (1,3).

The frontal sinus in its inferior side as well as the frontal recess can be accessible through an endoscopic approach (using angular optics of 40 or 70) but in invasions superior to these areas, external approach is more favourable (2,4).

The invasion of the lamina papyracea, the floor of the orbit, the anterior wall of the maxillary sinus and particularly of the covering skin ends with large excisions and important esthetical problems, especially if the resection is made for a malignancy, can be a relative contraindication to postoperative radiotherapy, due to lack of bone support of the pedicle flap harvested for reconstruction.

Sometimes the endoscopic approach is not satisfactory for a good exposure of the tumor and in the same time, the open approach alone can result in large cosmetic defects difficult to be accepted by the patient. In these cases, endoscopy due to the given magnification can complete and guide the excision of the tumoral tissue left in place, with lesser facial scars.

CONCLUSIONS

In the past, large tumours of the nose and paranasal sinuses were approached classically, using different facial incisions for a good exposure and leaving unesthetic scars. Lately, some authors are the advocates of endoscopic surgery that allows a good visualisation of the otherwise inaccessible areas. In our opinion, the approach must be individualized for every patient (considering general status, comorbidities), for every tumoral extension and for every histologic type.

The presented case demonstrated that, in this specific localization, the endoscopic approach alone would have been allowed the complete excision in the middle and lower part, but not in the frontal sinuses, while the external approach alone, in order to completely remove the tumour, would have been created some inesthetic facial scars. Combining these approaches gave us a complete control of the tumour and a very good esthetic result.

REFERENCES