

Osteoplastic Anterior Transoral Approach for Myxoid Chondrosarcoma in Rhinopharynx. A Case Report

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Abstract

Chondrosarcoma is a rare malignant neoplasm in the head and neck region, the most frequent sites in this area are recorded in the maxilla, nasal passages, paranasal sinuses, nasal septum and pharynx. Surgical access to large neoplasms located in the midline and rhinopharynx continues to be a challenge for surgeons due to anatomical and visual limitations when approaching them. The objective of this study is to describe a myxoid chondrosarcoma in rhinopharynx presented in a 56-year-old female patient treated surgically using an osteoplastic anterior transoral approach and neoadjuvant therapy, currently with three years of evolution the patient maintains adequate ocular, nasal and oral functions, without signs of recurrence of the lesion or facial alterations. Conclusion: surgical resection is the most effective treatment for myxoid chondrosarcoma if it is resectable, offering cure and better long-term survival. The anterior transoral osteoplastic approach is an excellent alternative for resection of tumors in the rhinopharynx since it allows us to have a wide field of vision, low morbidity and optimal aesthetic results as there are no facial scars.

Keywords: Chondrosarcoma; Lefort I; Rhinopharynx; Osteotomy

Introduction

Chondrosarcoma is a rare malignant tumor, formed exclusively by chondroid cells. It usually develops from long bones and pelvis. In less than 10% of cases, it originates at the level of craniofacial structures [1]. Extraskelletal myxoid chondrosarcoma is a rare soft tissue sarcoma that represents 2.5% to 3% of all soft tissue sarcomas [2]. The incidence of chondrosarcoma in the nasal cavity is rare, with less than 200 cases reported in the literature dating

back to 1950. Sinonasalchondrosarcoma is usually diagnosed in the third and fourth decades of life, with nasal obstruction and congestion being the most common documented symptoms [3]. Among the approaches for neoplasms in the rhinopharynx described in the literature are the Transfrontal-Nasoorbital, Midfacial Degloving, Transethmoidal, Transmaxillary, Transoral, and Weber-Ferguson approaches. The objective of the research is to describe a clinical case of a transoral osteoplastic approach for a Myxoid Chondrosarcoma in the rhinopharynx.

Case Report

A 56-year-old female patient who was referred by otorhinolaryngology to our service for a neoplastic mass located in the rhinopharynx with a diagnosis of myxoidchondrosarcoma T3 N0 M0. The patient reported nasal obstruction with anterior epistaxis and decreased visual acuity, evidencing facial asymmetry in the middle third (Figure 1). The nuclear magnetic resonance imaging (NMRI) study showed a hyperintense mass with an expansive neoplastic appearance with well-defined borders located in the rhinopharynx with displacement of the floor and medial wall of the right orbit (Figure 2). After neoadjuvant treatment with chemotherapy and following the treatment protocol for maxillary sinus tumors, surgical recession was decided through an anterior transoral osteoplastic approach by performing a segmented Lefort I osteotomy.

Under hypotensive general anesthesia with submental bypass, a mucoperiosteal incision was made for the conventional Lefort I approach, system 1.5 osteosynthesis plates were positioned and screws were drilled to obtain a reduction reference after recession. A conventional Lefort I osteotomy was performed, which may vary depending on the location of the tumour. Similarly, a mucoperiosteal incision was made in the palatal region to perform a medial palatal osteotomy, respecting adjacent structures such as the descending palatine and sphenopalatine arteries (Figure 3).

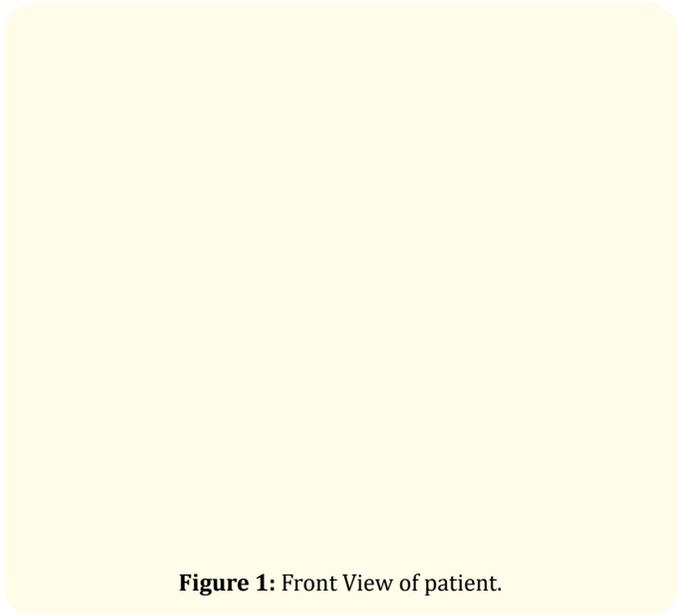


Figure 1: Front View of patient.

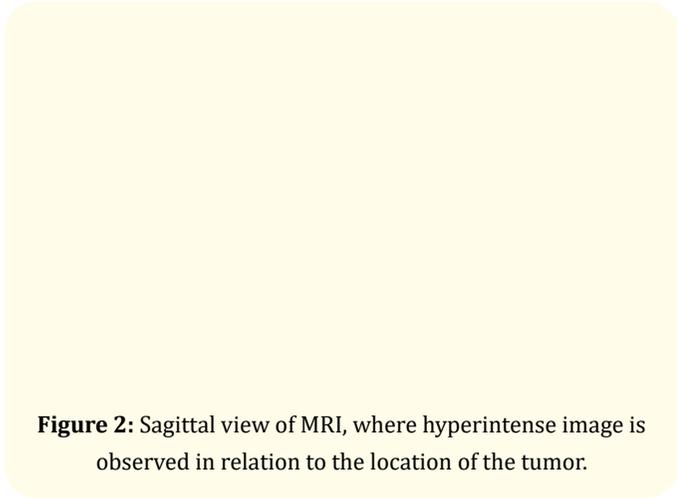


Figure 2: Sagittal view of MRI, where hyperintense image is observed in relation to the location of the tumor.

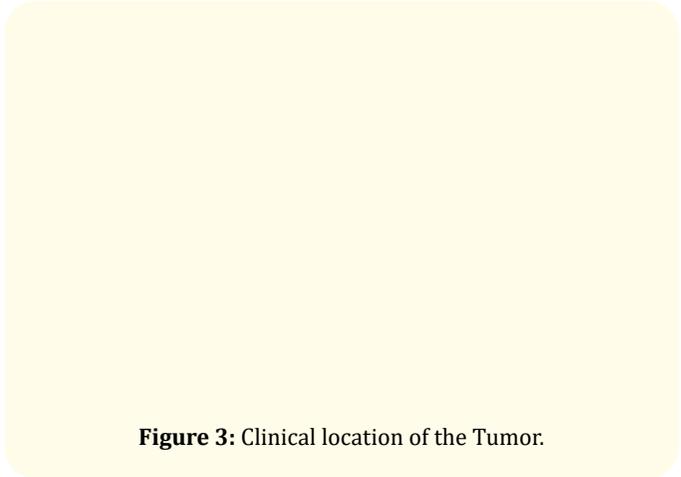


Figure 3: Clinical location of the Tumor.

After performing the down-fracture and segmenting the maxilla, the direct surgical field for tumor resection was obtained (Figure 4). After wide resection of the tumor, primary closure was performed by planes, respecting the nasal plane and palatal buccal plane. The reduction of the maxilla was achieved and the positioning of the preformed rigid fixation at the beginning of the surgery for subsequent primary closure (Figure 5). The patient was transferred to intermediate care for 24 hours after surgery. Postoperatively, the patient was clinically stable with normocclusion, and a control CT scan showed a hypodense image in the nasopharynx compatible with a resected tumor space. A previous diagnosis of excisional biopsy was verified. After 3 years of evolution, the patient maintains adequate ocular, nasal and oral functions, without signs of recurrence of the lesion or facial alterations.

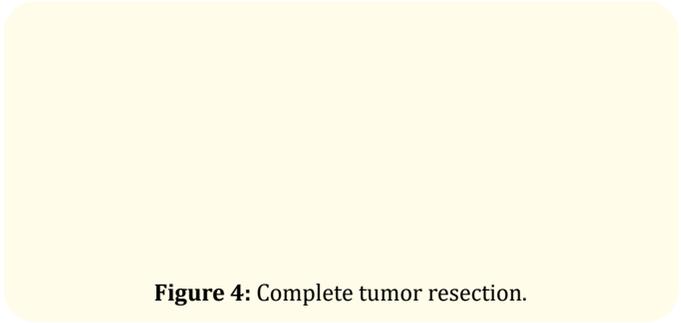


Figure 4: Complete tumor resection.

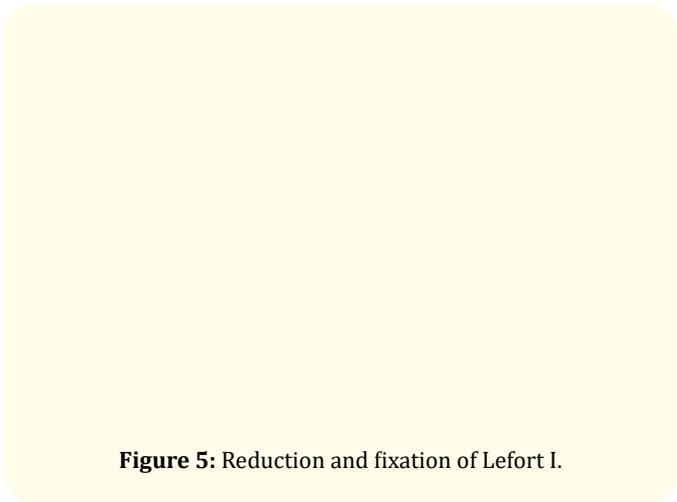


Figure 5: Reduction and fixation of Lefort I.

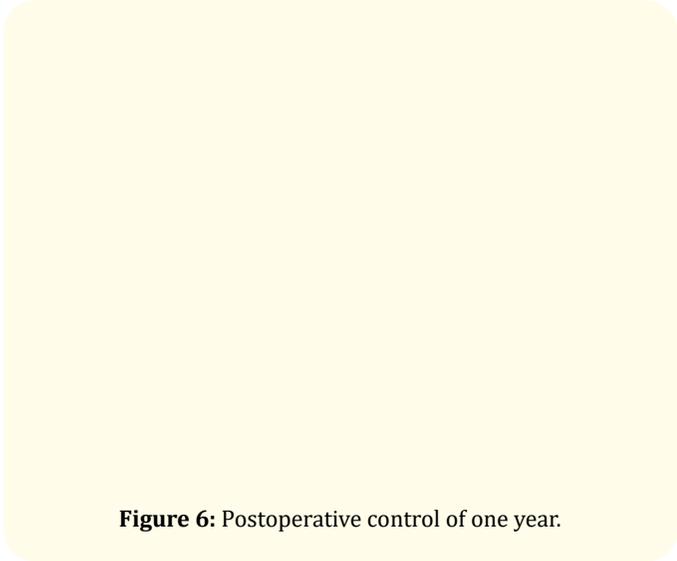


Figure 6: Postoperative control of one year.

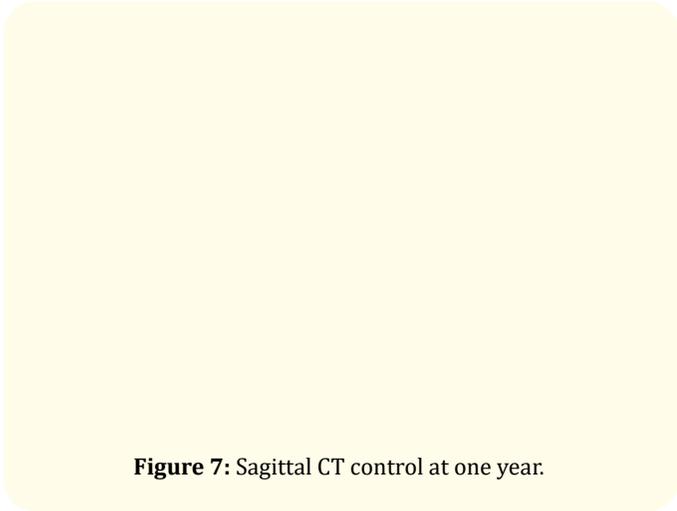


Figure 7: Sagittal CT control at one year.

Discussion and Conclusion

Chondrosarcomas represent a heterogeneous group of malignant bone tumors characterized by the formation of hyaline cartilaginous neoplastic tissue. After osteosarcoma, chondrosarcoma is the second most common primary solid tumor of bone with 3 new cases per 10 habitants per year. Chondrosarcomas mainly affect adults, and the incidence increases with increasing patient age [4]. The most common primary sites in the head and neck include the mandible, maxilla, nasal fossa, paranasal cavities, nasal septum and larynx [5], just as our clinical case presented its location in the rhinopharynx with extension to the right maxillary sinus.

According to Sepúlveda, *et al.* [1], chondrosarcomas occur more frequently between the fourth and seventh decades of life and it has a slight predilection for the male gender, unlike our clinical case where the patient was 56 years old.

The treatment for chondrosarcoma will depend on its size, this factor will tell us if the tumor is resectable or not. Silva, *et al.* [5] state that, if it is resectable, the most effective treatment for this type of pathology is surgical resection, since it is the only possibility that offers a cure and better long-term survival. In contrast, Guerra Delgado, *et al.* [6] state that a treatment option for unresectable or large tumors is palliative radiotherapy and pharmacotherapy with neuromodulators or powerful opioid-type analgesics, reducing the size of the tumor and improving the patient's quality of life. In our clinical case, however, it was decided to perform neoadjuvant chemotherapy and then a wide and complete surgical resection of the lesion.

Silva, *et al.* [5], suggest that there are various approaches such as the Weber-Ferguson, lateral rhinotomy, transnasalsublabial approach or transnasal excision. Among these, a new surgical alternative would be an extended endoscopic surgery for the extraction of orbital and naso-sinusal tumors. having as advantages the reduction of postoperative adverse effects, better aesthetics, shorter hospital stay and less postoperative morbidity. Other alternatives include the paralateronasal approach described by Obeso, *et al.* [7] and the anterior transoral osteoplastic approach described by Solano, *et al.* [8]. In our clinical case, it was decided to perform the anterior transoral osteoplastic approach described by Solano, *et al.* [8], because this allowed us to have a

great visualization of both the lesion and the adjacent anatomical structures, facilitating complete resection and guaranteeing aesthetic results.

In conclusion, surgical resection is the most effective treatment for myxoidchondrosarcoma if it is resectable, offering cure and better long-term survival. The anterior transoral osteoplastic approach is an excellent alternative for resection of tumors in the rhinopharynx since it allows us to have a wide field of vision, low morbidity and optimal aesthetic results as there are no facial scars.

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