Case report

Osteogenic sarcoma of the vomer bone **: A rare case report and review of the literature**

Abstract :

Osteosarcoma is a rare tumor, originates from primitive bone-forming mesenchymal cells, represents the most common primary bone malignancy.

we present an exceptionally rare case of vomer osteosarcom, confirmed by histological analysis. Treatment primarily involved complete resection using oral and endoscopic nasal approach. This case prompts a review of the diagnosis, clinical characteristics, and treatment strategies for vomer osteosarcoma, drawing insights from existing literature.

Keywords: osteosarcoma, osteogenic, sarcoma, vomer bone, head and nec sinonasal.

Introduction:

Osteogenic sarcoma (OS) is an extremely aggressive and uncommon bone tumor, occurring at an approximate rate of 1 case per 100,000 individuals in the general population [1]. Osteosarcoma can develop in any bone, but it typically occurs near the metaphyseal growth plates of the long bones in the extremities . Roughly 7% of all osteogenic sarcomas occur in the head and neck region [2-6]. osteosarcoma originating from the vomer bone is exceptionally rare, with any cases reported in the English literature to date in our knowledge.

Case report:

A 70-year-old patient with no significant past medical history presented with progressive and persistent right nasal obstruction that had been evolving for months, associated with intermittent episodes of unilateral epistaxis, but without other rhinological signs such as rhinorrhea, anosmia, or additional symptoms. The condition was evolving in the context of overall good health.

Endoscopic examination revealed a bleeding, budding mass in the lower corridor of the right nasal cavity, obstructing the endoscope's passage. The left nasal cavity was unremarkable. Examination of the cervical lymph nodes showed no lymphadenopathy. The remainder of the ENT and general examinations were normal.

A facial CT scan (fig 1, 2) showed a tissue mass measuring 35 x 25 mm in the right nasal cavity, extending to the choanae, with the walls of the nasopharynx remaining clear. An endoscopic biopsy indicated an osteosarcoma of the vomer (fig 3). Additional imaging (cervico-thoraco-

abdomino-pelvic CT) to check for distant metastases showed no notable abnormalities.

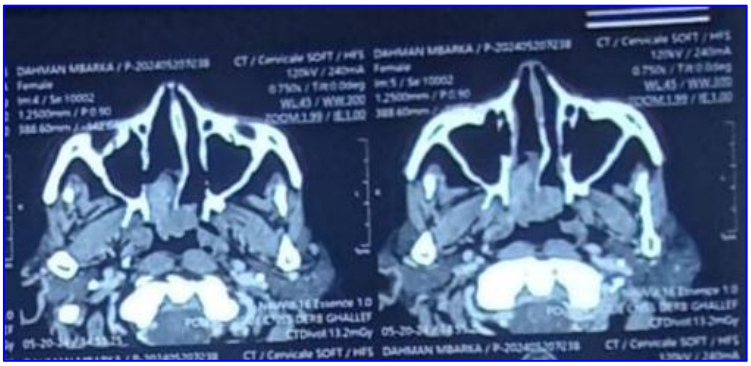


Figure1 : Axial CT scan of the face showing the tumor in the right nasal cavity extending to both choanae.

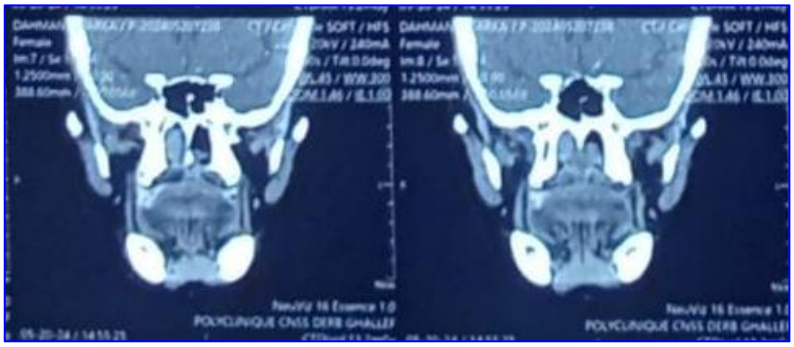
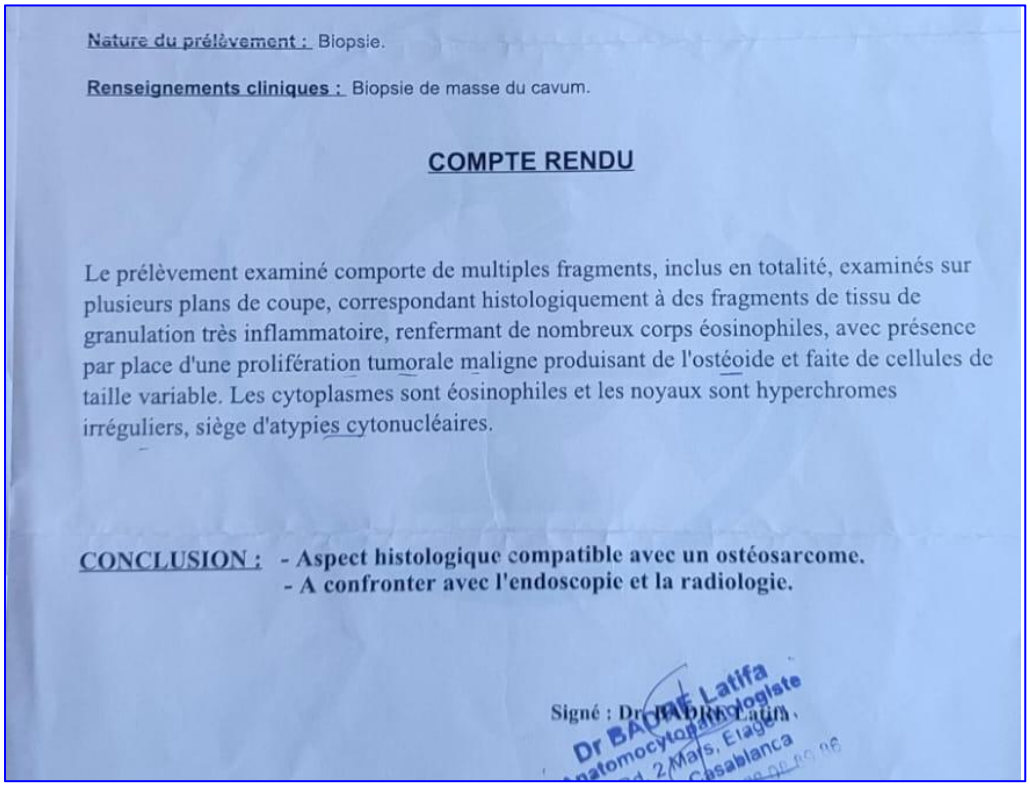


Figure 2 : Coronal section CT scan



Nature du prélèvement : Biopsie.

Renseignements cliniques : Biopsie de masse du cavum.

COMPTE RENDU

Le prélèvement examiné comporte de multiples fragments, inclus en totalité, examinés sur plusieurs plans de coupe, correspondant histologiquement à des fragments de tissu de granulation très inflammatoire, renfermant de nombreux corps éosinophiles, avec présence par place d'une prolifération tumorale maligne produisant de l'ostéoide et faite de cellules de taille variable. Les cytoplasmes sont éosinophiles et les noyaux sont hyperchromes irréguliers, siège d'atypies cytonucléaires.

CONCLUSION : - Aspect histologique compatible avec un ostéosarcome.
- A confronter avec l'endoscopie et la radiologie.

Signé : Dr BAOUZ Latifa

Figure 3: Histopathological results of the biopsy.

The therapeutic decision was surgical excision, performed endoscopically with the need for an additional endobuccal approach to completely remove the tumor and achieve negative margins (figures 4,5,6 and 7).

Postoperative recovery was straightforward, with no complications noted.

The patient was then presented at a multidisciplinary team meeting to discuss adjuvant radiation therapy.

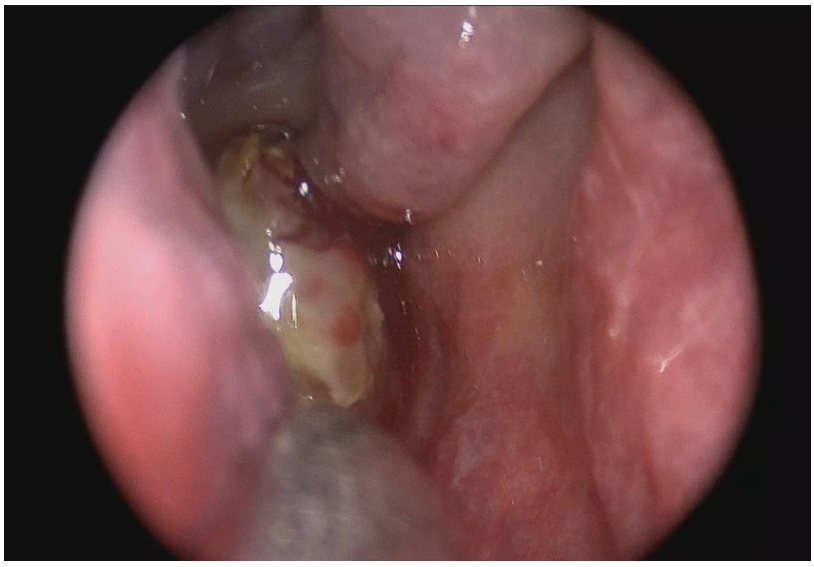


Figure 4 : endoscopic image showing the tumor preoperatively

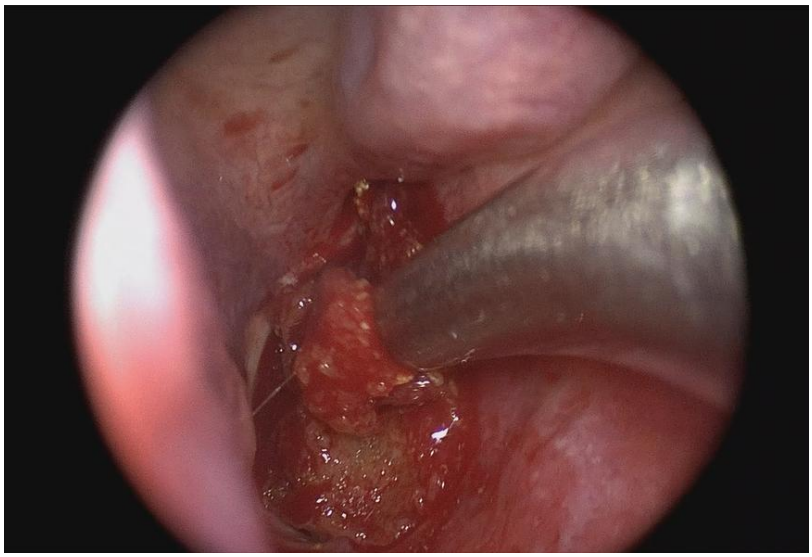


Figure 5 : endoscopic image during the early stages of surgical excision

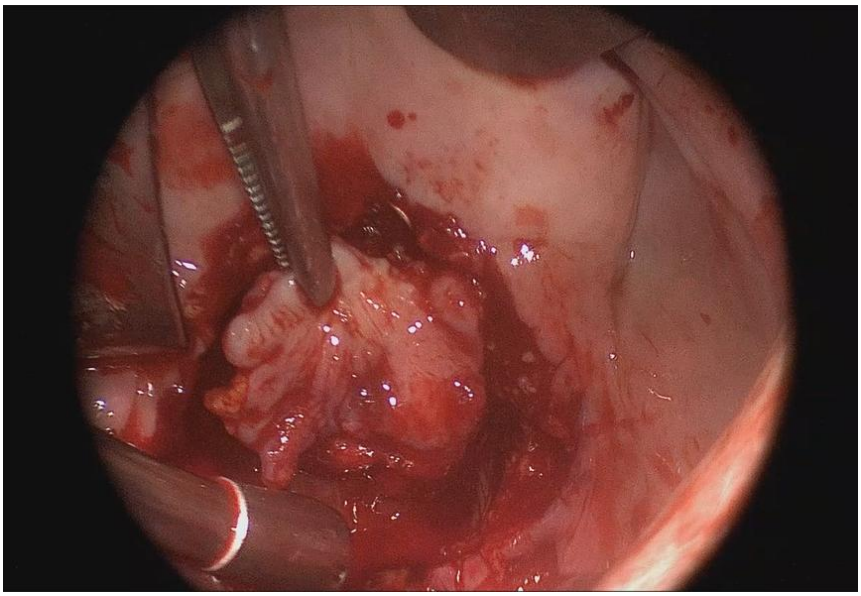


Figure 6 : image showing the surgical approach to the mass via the intraoral route

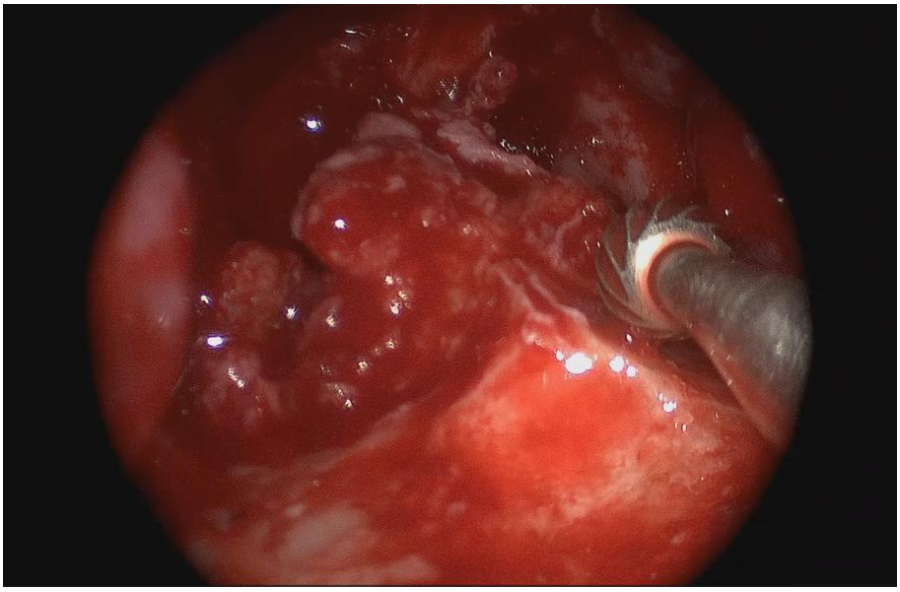


Figure 7 : completion of tumor excision and milling of the palatine bone

Discussion:

Sinonasal osteosarcoma is an exceptionally rare disease, Most head and neck lesions originate in the mandible, with the maxilla being less commonly affected [7]. So far, there has been no research into survival rates for this population or the factors that may impact them [8].

Several potential causes have been suggested, including prior radiation exposure, a history of retinoblastoma, Paget's disease of bone, fibrous dysplasia, and genetic predisposition. In one study, a history of radiotherapy was identified as the most significant risk factor [13].

The gender distribution is similar for both sexes, with a mean age in the 30s, following a bimodal age distribution pattern [9-11]. The most commonly observed symptom is a mass or swelling in the cheek or jaw and nasal obstruction . Pain is the initial symptom in about one-third of patients, while dental complaints are less common [12,14,15]. Endoscopic examinations of the nasal cavities are essential, as they can reveal any tumor-induced displacement of the lateral nasal wall.

A CT scan is essential for diagnosing tumors in the sinonasal cavities because it helps assess the extent and local spread of the disease and can provide indications of the tumor type. Vascular and neurogenic tumors often exhibit contrast enhancement on CT scans. The scanner looks for specific indicators of an aggressive lesion, such as localized cortical destruction, characteristics of periosteal reaction, and improved visualization of the mineralized matrix. MRI is indicated as second intention in order to confirm or refute the existence of a lesion, and to specify the characteristic appearance of certain subtypes

Due to the limited number of sinonasal osteosarcoma cases, there is no consensus on the optimal treatment approach for this condition, while the primary treatment for head and neck osteosarcoma is thorough surgical resection with negative margins thus leading to a better prognosis. [10,16].

Local recurrence is the most frequent type of failure, occurring in 94% of patients. This finding is in line with previous research and indicates that achieving wide surgical margins is challenging

[17].

Regarding adjuvant treatments, radiation therapy appears to be ineffective for bone tumors and plays a very limited role in the treatment of bone cancers [18].

in literature, The effect of radiotherapy on patient survival was also not beneficial. Again, this may potentially be attributed to a selection bias, with a greater tendency to use adjuvant radiation therapy in patients with more advanced tumors and those with incomplete surgical resections.

The addition of adjuvant chemotherapy did not have a significant impact on the survival of patients .This is in contrast to osteosarcoma of the extremeties, which is may benefit more from the effects of chemotherapy, given to higher rate of distant metastases [19-21].

Conclusion:

Osteosarcoma of the vomer is a rare and highly malignant tumor that requires aggressive treatment, primarily through surgery with negative margins. The role of adjuvant radiochemotherapy is not well defined in the literature and is typically reserved for cases that are locally or distantly extensive.

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