

Osteosarcoma : A Recurrence Case

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Abstract

Osteosarcoma is the most common primary malignancy of bone, although only 6% to 10% of osteosarcomas occur in the craniofacial region. In maxilla, it has an aggressive biological behaviour even in the case of applying adjuvant therapies. Reporting case of osteosarcoma of maxilla of right side with recurrence.

Keywords : Bimodal, Osteosarcoma, Recurrence, Surgery, Swelling.

Introduction

Osteosarcoma is a common primary malignant bone tumor producing osteoid or bone. Sarcomas account for less than 1% of all malignant neoplasms occurring in the head and neck in adults.^{1,5,6} It is an unusual lesion representing less than 4% of all recorded sarcomas.^{2,3,5,7} Peak incidence for jaw osteosarcoma is 3rd-4th decade, while osteosarcomas of long bones show a bimodal age distribution.^{3,5,6} The clinical presentation of this neoplasm is variable and dependent on subsite of involvement as well as the aggressiveness of tumor growth.^{1,5,6} Swelling without pain was the most common presenting symptom.^{2,5,6,7} Some lesions were initially misdiagnosed as odontogenic infections. Numbness as a presenting symptom was statistically associated with poor prognosis.^{2,5,7} On plain radiographs, findings in osteosarcoma of the jaws are non-specific and reveal a destructive lesion with a moth-eaten appearance, a spiculated periosteal reaction as seen and a cuff of periosteal new bone formation at the margin of the soft tissue mass known as Codman's triangle.^{7,9} There can be widening of the periodontal ligament space (Garrington sign).^{3,7,12} These tumors exhibit variable growth and degrees of aggressiveness which are primarily dependent on histologic grade.^{1,5,11,12}

Treatment included all combinations of surgery, chemotherapy and radiotherapy.^{2,5} The importance of early diagnosis, definitive surgical treatment and aggressive adjuvant chemotherapy is demonstrated.^{1,2} Survival is predicted on the incidence of local recurrence and risk of distant metastasis, both of which are influenced by tumor grade. It has historically carried a poor prognosis and a low 5-year survival rate.⁵

Report of Case

A 15-year-old male patient was admitted to our hospital in August 2012 with the complaint of a painless swelling of his right cheek which was gradually enlarging for over two months. He also reported excessive tears in his right eye. By the physical examination, a 7 by 7

centimeter, hard, non-tender mass involving the right half of the maxillary region was found. No cervical lymphadenopathy was detected following the bilateral palpation of the neck. His systemic examination did not reveal abnormal clinical findings. No history of any habit. Chest X-Ray, blood tests and abdominal ultrasonography were normal. A punch biopsy of the lesion revealed the diagnosis of osteosarcoma of the jaw.

After the evaluation, a surgical exploration was performed and the patient underwent a wide excision of the tumor with partial maxillectomy of the right side. Histopathologic examination of the specimen revealed diagnosis of the osteosarcoma and the margins of the surgical resection were negative for the tumor. The nearest margin of the resection to tumor was three millimeters away.

In September 2012, he was again admitted to our hospital with the complaint of a painful swelling in the operated area, difficulty in oral feeding and chemosis. On a clinical examination, a massive recurrent lesion at the operated site was noted. It is characterized by massive local destruction and no metastasis to the lungs early in its course.

Because of locally advanced and inoperable disease, a course of chemotherapy therapy was administered. Following this, there was an improvement in his symptoms but no regression of the lesion was noted. (Fig. 1 to 5)

Discussion

Osteosarcoma is the most common primary malignancy of bone, although only 6% to 10% of osteosarcomas occur in the craniofacial region.^{2,3,5,7} Osteosarcoma of the craniofacial region is a relatively rare disease'. The mandible is usually reported as the most common site of involvement,¹² although there are some reports that mandibular and maxillary osteosarcomas have been seen in the equal frequency followed by the skull. When compared with other locations, craniofacial osteosarcomas are less aggressive, occur in a more elderly population and prefer local invasion rather than distant metastases. The average age at the onset of osteosarcoma of the maxillofacial region is found in the third to fourth decade of life.^{3,5,6} While a slight male predominance is reported,⁷ The histological types are chondroblastic (41%), osteoblastic (33%) and fibroblastic (26%).^{7,11,12} The major risk factors for the development of osteosarcoma of the jaws are similar to those for osteosarcoma of the long bones, i.e. previous irradiation of facial region, Paget's disease and fibrous dysplasia. Other bone abnormalities, such as multiple osteochon-

dromatosis, chronic osteomyelitis, myositis ossificans and trauma have also been proposed as risk factors.^{7,9}

Our patient had no known etiology of osteosarcoma. It is clear that the complete resection of the primary lesion is ideal for the treatment of osteosarcoma.^{1,6} A total maxillectomy is recommended at the time of the initial diagnosis of osteosarcoma as was in the patient presented. The surgical margin appears important in terms of prognosis. Patients with clear surgical margins of greater than 5 mm demonstrate a better survival, fewer local recurrences and less metastatic disease than those with margins of less than 5 mm.

In our patient, clear surgical margins were obtained at the initial therapy, but one margin was close to the tumor. Osteosarcomas arising from the maxilla cannot always be resected with sufficiently safe margins as in the presented patient. This is reflected by a relatively high local recurrence rate in some series. These tumors have usually a tendency to spread with local invasion. Our patient had no detectable metastases in spite of the advanced, recurrent mass. Adjuvant treatments are considered effective for preventing recurrence only when the primary lesion has been removed completely. Radiotherapy, by means of external beam or implant, plays an important adjunctive role in management, especially for tumors where en-bloc resection with margin control is not possible.¹ It was partially effective in reducing tumor size.⁶ In particular, the recurrent tumor outside the facial bones was no longer evident after radiation therapy.⁶ Chemotherapy can be used for the control of occult distant metastases, as in osteosarcomas of extremities and lead to the improvement in the survival statistics as it did with osteosarcomas of extremities.

In our view the presented case is interesting in terms of relatively early age onset of the tumor. Secondly, although the patient was free of symptoms and local recurrence, he presented with a local, massive recurrence within 2 months time. That's why we believe that the careful follow-up of these patients for local recurrence is mandatory.

Conclusion

Osteosarcoma of the maxilla has an aggressive biological behavior even in the case of applying adjuvant therapies. Therefore, early diagnosis and radical surgery with wide surgical margins are the keys to a good outcome. The careful follow-up of these patients for local recurrence is mandatory.

References

References are available on request at editor@healtalkt.com



Fig. 1 : Pre Operative Lesion

Fig. 2 : Excision of Lesion

Fig. 3 : Suturing

Fig. 4 : Recurrence of Lesion

Fig. 5 : No Metastasis in Lung

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