

A Case Report of a Mesenchymal Chondrosarcoma of the Mandible

Dr. Dani Bouchra¹, Dr. Amraoui Oussama², Dr. Hamidi Olaya³, Dr. Bouksirat Maha⁴, Pr. Boulaadas Malik⁵,
Pr. Leila Essakalli Hossyni⁶

^{1,3,4,5}Maxillofacial surgery and stomatology department, IBN SINA University hospital, RABAT, MOROCCO

^{2,6}ENT department, IBN SINA University hospital, RABAT, MOROCCO

ABSTRACT: Mesenchymal chondrosarcoma is a rare variety of chondrosarcoma. The localization in the head and neck is rare and mandibular involvement is exceptional. It is characterized by the formation of cartilage by the tumor cells. We report a rare case of a mesenchymal chondrosarcoma of the mandible, through this case, and in the light of the literature we will review the epidemiological, diagnostic and therapeutic aspects of this rare malignant tumor.

KEY WORDS: Case Report, Mesenchymal Chondrosarcoma, Mandible

INTRODUCTION

Mesenchymal chondrosarcoma is a rare variety of chondrosarcoma, first described in 1959 by Lichtenstein and Bernstein [1]. It is a cartilage malignant tumor characterized by the formation of the cartilage by tumor cells. It represents 11% of all malignant bone tumors [2]. Localization at the head and neck is rare; about 5%; and the mandibular region of the mesenchymal type is exceptional.

These rare tumors most often affect young people in their second or third decade [4]. Their poor prognosis depends on their degree of differentiation and the quality of resection [2]. Treatment consists essentially of complete resection.

We report an observation of mesenchymal chondrosarcoma of the mandible, through our case and in the light of the literature we will review the epidemiological, diagnostic and therapeutic aspects.

OBSERVATION

A 34-year-old female patient, with no particular history, who presented with a swelling of the inferior vestibule at the level of the symphyseal region (ranging from 32 to 42) evolving for 1 year. In a context of apyrexia and conservation of the general state.

A dental scan showed an aggressive lesion process centered on the mandibular symphysis, hypodense, poorly limited, with irregular contours, with rupture of the external cortex and infiltration of the soft tissues. The biopsy came back in favor of a mesenchymal chondrosarcoma.

The patient underwent a complete removal of the tumor by vestibular approach, taking away the external cortex of the mandibular symphysis and the infiltrated soft tissues (figure 2). The postoperative course was simple. Histological examination of the surgical specimen confirmed the diagnosis of mesenchymal chondrosarcoma. The excision limits were healthy.

The patient was referred to oncology for additional external radiotherapy. After two years, the evolution was favorable and the patient showed no sign of recurrence.



Fig.1: Dental scan: coronal cuts showing a hypodense lesion, centered on the mandibular symphysis, poorly limited with infiltration of the medulla opposite.

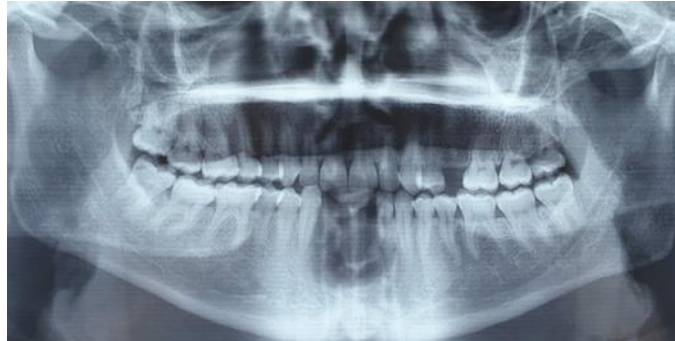


Fig.2: Postoperative control orthopantomogram showing the extent of tumor removal

DISCUSSION

Mesenchymal chondrosarcoma is a rare variety of chondrosarcoma. The localization in the head and neck is rare and mandibular involvement is exceptional. It is characterized by the formation of cartilage by the tumor cells [5]. It constitutes 0.1% of all head and neck tumors [6]. Maxillary localization is more frequent than mandibular localization [7].

For some authors, there is a male predominance and for others both sexes are equally affected [2]. Its evolution is generally slow in time with a high tendency to locoregional recurrence after surgical treatment.

The revealing symptomatology is most often a mass of the mandibular region, more or less painful, with a very rapid evolution and variable volume according to the cases, in addition of a gingival bleeding, dental mobility and/or loss of teeth, labial paresthesia or even pathological fractures can be present [9].

The radiological signs are not specific. Standard radiographs and CT scans show an osteolytic tumor with areas of calcification [4] and cortical rupture as well as extension to the soft tissue. This radiological semiology is the same as for other cartilage tumors and osteosarcomas. Magnetic resonance imaging (MRI) is used to study the extension of the tumor to the soft tissues and its relationship to adjacent structures.

Histopathology confirms the diagnosis by showing Islands of chondroid patches bordered by a proliferation of small round or ovoid cells, harboring chondrocytes with cytonuclear atypia. Immunohistochemical analysis reveals the presence of S100 protein, actin, and cytokeratin the difference between chondroma and chondrosarcoma chondrogenic Hamartomas and osteosarcomas poses difficulties for pathologists [10-2], this tumor associates low-grade chondrosarcomatous sectors with a contingent of small undifferentiated round mesenchymal cells.

Surgery is the mainstay of treatment and consists of a complete and wide resection, passing through the healthy zone [1-2-11]. Lymph node dissection does not seem to improve survival [9].

Regarding the radiosensitivity of mesenchymal chondrosarcoma, it is generally accepted that radiotherapy should be used for palliative purposes in unresectable cases or as adjuvant therapy in cases of residual disease [12]. Chemotherapy has a limited role in chondrosarcoma, but can be applied as adjuvant therapy in high-grade mesenchymal chondrosarcoma, in cases of rapid local recurrence with aggressive behavior, or in cases of metastatic potential [11].

If recurrence occurs, chondrosarcoma progresses progressively over two years from recurrence to death. Aggressive surgical treatment should be considered, even for recurrent tumors, because the usual pattern of recurrence is local failure, not metastasis.

Metastasis is common, with diffusion occurring more often by the hematogenous way than by the lymphatic way. The lung and bone are the preferred sites [2].

As in the literature, our patient benefited from a large carcinological excision with adjuvant radiotherapy. A good postoperative evolution in the short and long term was reported.

CONCLUSION

Mandibular mesenchymal chondrosarcoma is a rare variety. Surgery is the mainstay of treatment. The interest of a possible complementary radiotherapy or chemotherapy has not yet been demonstrated; hence the interest of a regular follow-up is imperative in order to avoid recurrences.



DECLARATION OF PATIENT CONSENT

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

REFERENCES

1. R. Bencheikh, A. Benhammou*, M.-A. Benbouzid, H. El Edghiri, M. Boulaich, L. Essakali, M. Kzadri. Chondrosarcome mésoenchymateux de la mandibule. Rev Stomatol Chir Maxillofac 2007 ;108 :156-158
2. M. Ndiaye · E.E.M. Nao · I. Thiam · B. Loum · M.M. Dieng · M. Gaye · A. Tall · B.K. Diallo · I.C. Ndiaye · R. Diouf · E.M. Diop. Chondrosarcome mandibulaire : à propos d'un cas et revue de la littérature. J. Afr. Cancer (2011) 3 :82-84 DOI 10.1007/s12558-010-0098-9
3. B B Burkey 1, H T Hoffman, S R Baker, A F Thornton, K D McClatchey . Chondrosarcoma of the head and neck. Laryngoscope 1990 Dec ;100(12): 1301-5.doi : 10.1288/00005537-199012000-00010.
4. R. Lockhart, P. Menard , J. P. Martin, M. Auriol, J. M. Vaillant, J.-Ch. Bertrand: Mesenchymal chondrosarcoma of the jaws. Report of four cases. Int. J. Oral Maxillofac. Surg. 1998 ; 27 : 358-362.
5. Ruark DS, Schlehaider UK, Shah JP. Chondrosarcomas of the head and neck. World J Surg 1992 ; 16(5):1010–5.
6. Koch BB, Karvell LH, Hoffman HT, et al (2000) National cancer database report on chondrosarcoma of the head and neck. Head Neck 22 :408–25)
7. Garrington G, Collet W (1988) Chondrosarcome of the jaw : analysis of 39 cases. J Oral Pathol 17 :12–20)
8. Zakkak TB, Flynn TR, Boguslaw B, Adamo AK. Mesenchymal chondrosarcoma of the mandible: case report and review of the literature. J Oral Maxillofac Surg 1998 ;56 :84–91.)
9. Hackney FL, Aragon SB, Aufdemorte TB, et al : Chondrosarcoma of the jaws : Clinical findings, histopathology, and treatment. Oral Surg Oral Med Oral Pathol 71 :139, 1991
10. Gilberto Sammartino, Gaetano Marenzi, Candace M. Howard, O. Trosino, Luigi Califano, Pier Paolo Claudio. Managing Chondrosarcoma of the Jaw. J Oral Maxillofac Surg 2008.
11. Sei Young Lee,1 Young Chang Lim,2 Mee Hyun Song,3 Jae Yeon Seok,4 Won Sang Lee,3 and Eun Chang Choi. Chondrosarcoma of the Head and Neck. Journal List Yonsei Med J v.46(2); 2005 Apr 30PMC2823018
12. McNaney D, Lindberg RD, Ayala AG, Barkley HT, Jr, Hussey DH. Fifteen year radiotherapy experience with chondrosarcoma of bone. Int J Radiat Oncol Biol Phys. 1982 ;8:187–190.

Cite this Article: Dr. Dani Bouchra, Dr. Amraoui Oussama, Dr. Hamidi Olaya, Dr. Bouksirat Maha, Pr. Boulaadas Malik, Pr. Leila Essakalli Hossyni (2022). A Case Report of a Mesenchymal Chondrosarcoma of the Mandible. International Journal of Current Science Research and Review, 5(2), 345-347