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Mandibular Plasmocytoma: A Case Report of a Rare Entity

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ABSTRACT

A plasmacytoma is a rare malignant, unifocal, monoclonal, neoplastic plasma cell proliferation tumor that usually occurs within the bone. In soft tissue, it is often seen, in which case the term extramedullary plasmacytoma is used. Some researchers believe this lesion is the least aggressive part of a plasma cell neoplasm spectrum that extends to multiple myeloma. The diagnosis of Solitary Plasmacytoma of Bone (SPB) is established by histopathological examination, and the histopathological presentation is identical to that of multiple myeloma. We present a case of a 55-year-old patient with the increased facial volume on the left side and a year of evolution, intraorally with exophytic and erythematous lesions and pseudomembranous plaques in the jaw on the left side, which at histopathological study resulted in plasmacytoma. The diagnosis was confirmed by immunohistochemistry. Oral and maxillofacial surgeons should know about this disease's etiology and clinical characteristics, and the oral cavity presence since a late treatment compromises the patient's life.

1. Introduction

One of the least common malignant tumors in the oral cavity is the Solitary Plasmacytoma of Bone (SPB); differentiated B-cells' neoplastic proliferation knows this one. Two entities have been reported initially presenting the upper airway submucosa: solitary bone plasmacytoma (90 percent), extramedullary plasmacytoma (8 percent), such as the nasal cavity or posterior oropharynx, and only 2 percent are reported to be involved in the lower jaw.[1] The possibility of a patient with SPB presents multiple myeloma is 36-85% based on the literature. Doesn't exist any specific age for it to manifests may be more than 20 years. Mandibular SPB is treated with local irradiation therapy or with radiotherapy combined with curettage or segmental mandibulectomy surgery. Radical surgery, especially in cases of soft tissue involvement, should be considered.[2] The purpose of this study is to present an unusual clinical case of Plasmocytoma in the jaw, as well as an updated review of the literature on this infrequent clinical presentation. According to the Helsinki declaration, this study was approved by the ethics committee of the Department of Oral Surgery, University of Zulia of Maracaibo, and the people involved signed informed consent.

2. Case Presentation

A 55-year-old female patient attended the Oral Surgery Service of the Dentistry School in Maracaibo, Venezuela, in January 2019, presenting an increase of volume in the left side of the face with eight months of evolution. The patient refers to the smoking habit. In the medical examination, the patient was clinically stable. There was evidence of a slight increase in volume, induration, and painful palpation in the left buccal area. (Fig. 1).

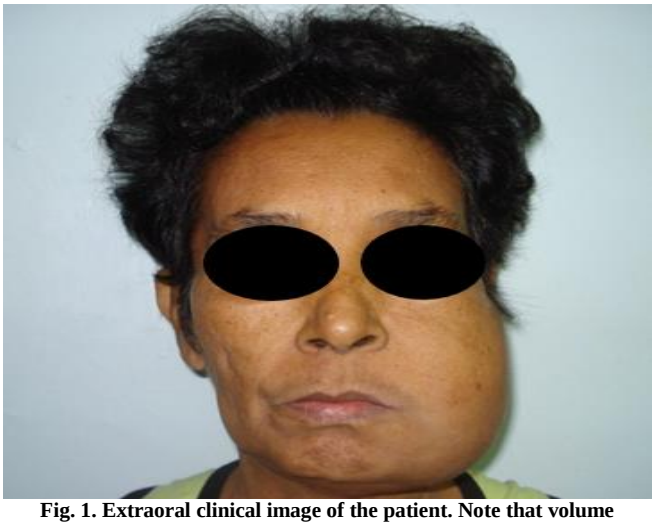

Fig. 1. Extraoral clinical image of the patient. Note that volume increases in the left buccal region, (published with the patient's permission).

There was evidence of trismus intraorally, exophytic, and erythematous lesions with pseudomembranous plaques in the left jaw alveolar flange (Fig. 2).

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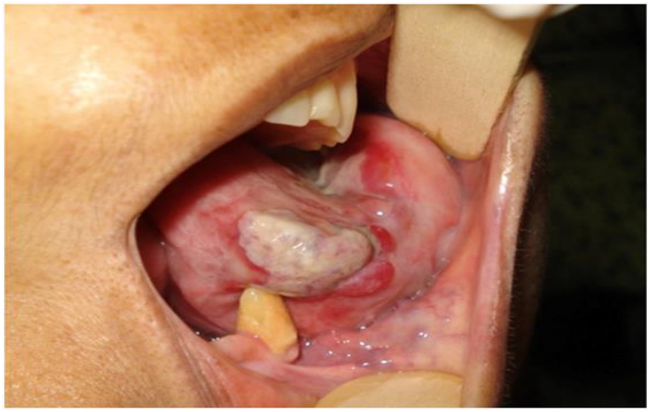

Fig. 2. Extraoral clinical image of the patient. An exophytic and erythematous lesion with pseudomembranous plaques.

The patient provided a conventional radiograph that showed a radiopaque image that occupied the jaw's body and ascending branch (Fig. 3). CT scan of the head showed a hypodense mass on the left mandible, with vestibular bone cortical fenestration (Fig. 4).

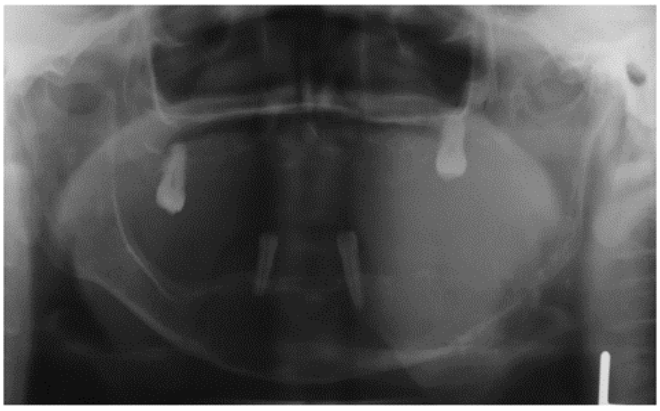

Fig. 3. The conventional radiograph showed a radiopaque image that occupied the body and ascending branch of the jaw.

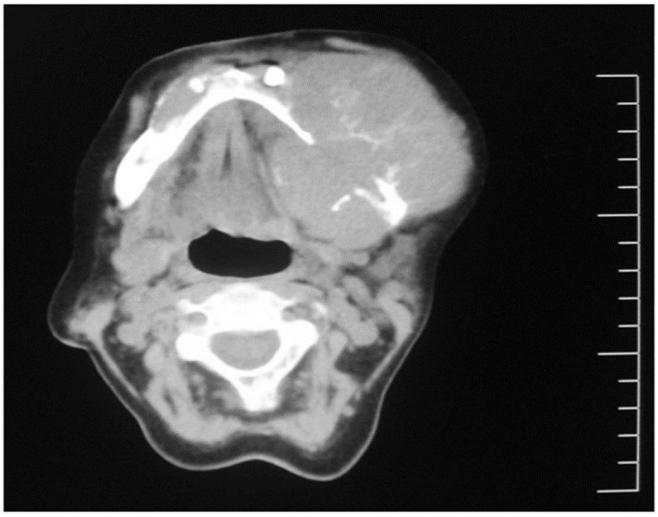

Fig. 4. The head CT scan showed a hypodense mass on the left mandibular, with the vestibular bone's cortical fenestration.

An incisional biopsy is performed for histopathological study (Fig. 5) under local anesthesia, the diagnosis of Plasmocytoma was confirmed. The diagnosis was confirmed by immunohistochemistry (Fig. 6), obtaining moderate values for CD38 and high values for Lambda light chain Ig, and determining Bence Jones protein in the urine. Later, for further investigation and treatment, the patient was referred to the oncology department. The final diagnosis was SPB. The patient was recommended for multiagent chemotherapy and prescribed cyclophosphamide and dexamethasone. Unfortunately, the patient died before the treatment was finished.

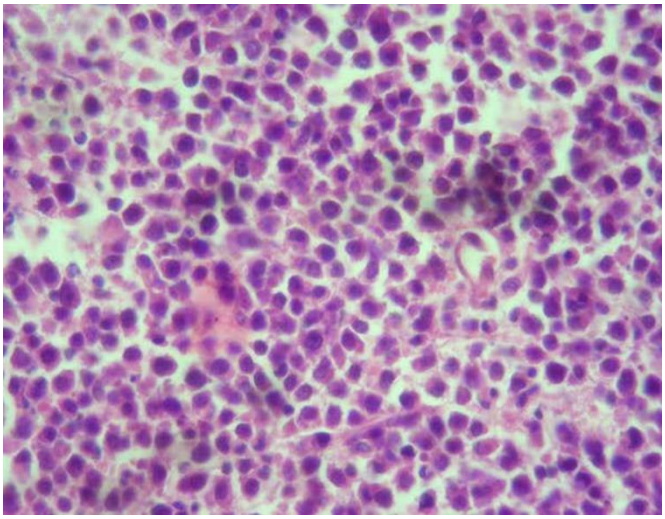

Fig. 5. The histopathological study, sheet-like pattern of atypical plasma cells.

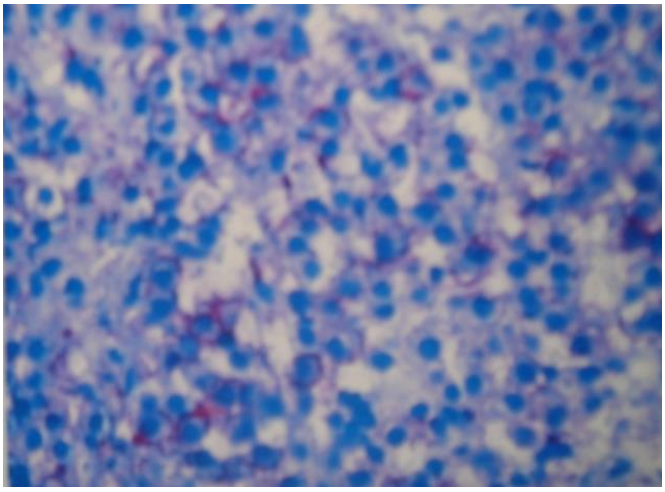

Fig. 6. Immunohistochemistry study, CD138(+) 400X.

3. Discussion

When talking about plasmacytomas, they could be divided into three groups: Multiple Myeloma (MM), solitary plasmacytoma of bone (SPB), and ExtraMedullary Plasmacytoma (EMP). SPB happens centrally in bones and EMP in soft tissues, while MM is a multifocal disseminated form of plasmacytomas.[3] This neoplasm usually emerges within bones, and it's characterized as a monoclonal proliferation of plasma cells. Mainly, lesions by MM are shown centrally within a single bone; it's presented more commonly in the spine, vertebrae, femur, and pelvis.

The term EMP is used when it's seen affecting soft tissue. The upper respiratory tract is preferred for EMP, especially the nasal cavity, the oropharynx, the nasopharynx, and the sinuses.[4, 5] It's rarely seen SPB in the jaws, hindering the diagnosis and misdiagnosis for Its similarity with other pathologies. Many authors of plasmacytomas have been reported in the nasal cavity and sinus in 40% of cases, in the nasopharynx in 20%. The oropharynx in 18% of cases, when it embraces the maxillofacial area.[3, 6] The frequency of plasmacytoma on the mandible is 4.4%, according to reported cases. They are usually seen in the ramus and body of the mandible.[7] Pain is seen in patients in the affected area. It's possible to find a bone fracture; progressive bone swelling with soft tissues' involvement as oral mucosa maybe some other characteristics. It is very uncommon to have asymptomatic solitary bone plasmacytoma of the jaw, but it can exist and has been reported previously.[8] The patient did not refer to pain in our case, and the presence of progressive bone swelling with the presence of oral mucosa can be seen. Depending on the plasmacytoma type and differentiation, the prognosis of the disease and the patients' survival rates may vary. SPB may be an isolated disease or the first case of a subsequent MM. A plasmacytoma of the jaws may indicate the presence of MM, with a rate of 65 - 100% of cases.[9] In cases with isolated SPB, a better prognosis of patients with higher survival probabilities was reported, even though the reported case's delayed diagnosis did not favor the patient. The patient began a delayed treatment taking him to death before finishing it. Combination of chemotherapy, irradiation, and prophylactic procedures make plasmacytomas respond positively. Local radiation and chemotherapy may defer MM transformation. Some authorities suggest radiotherapy following surgical excision for the treatment of SPB.[10] In our case, the patient was referred to the oncology department for treatment, but, unfortunately, she died before the treatment was finished.

4. Conclusion

Solitary Plasmacytoma of Bone (SPB) is a rare pathology uncommon in the jaw, can appear in other types of neoplasm. The diagnosis must be confirmed by immunohistochemical studies and light chain proteins excreted in the urine.The clinical and physical examination must be complemented by conventional imaging, CT, and more specific studies. The interdisciplinary management of these cases allows better therapeutic planning for the benefit of the patient. This case provides interesting information that could help oral and maxillofacial surgeons in the early management of this type of pathology because late treatment of these cases could end in the patients' death.

Conflict of Interest

The authors declared that there is no conflict of interest.

Acknowledgements

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References

[1] Meziane M, Boulaadas M, Essakalli L, Kzadri M, Harmouch A. Solitary plasmocytoma: ghost tumour?. International journal of oral and maxillofacial surgery. 2012;41(1):17-9. https://doi.org/10.1016/j.ijom.2011.06.019.

[2] Millesi W, Enislidis G, Lindner A, Schobel G, Ewers R, Drach J, Rath T. Solitary plasmocytoma of the mandible—a combined approach for treatment and reconstruction. International journal of oral and maxillofacial surgery. 1997;26(4):295-8. https://doi.org/10.1016/S0901-5027(97)80874-0.

[3] Kucukkurt S, Karan NB, Senguven B, Kahraman S. Solitary plasmacytoma of the mandible: report of two cases. Case Reports. 2016. http://dx.doi.org/10.1136/bcr-2015-214255.

[4] Rezaei F, Nazari H, Izadi B. Solitary plasmacytoma in the mandible resembling an odontogenic cyst/tumor. Case reports in dentistry. 2016. https://doi.org/10.1155/2016/3629047.

[5] An SY, An CH, Choi KS, Heo MS. Multiple myeloma presenting as plasmacytoma of the jaws showing prominent bone formation during chemotherapy. Dentomaxillofacial Radiology. 2013;42(4):20110143. doi: 10.1259/dmfr.20110143.

[6] Popovski V, Dvojakovska S, Benedetti A, Panchevski G, Stamatoski A, Janevska V. Mandibular involvement of plasmacytoma–Uncommon case report of rare entity. Annals of Medicine and Surgery. 2019;45:95-7. https://doi.org/10.1016/j.amsu.2019.07.021.

[7] Marotta S, Di Micco P. Solitary plasmacytoma of the jaw. Journal of blood medicine. 2010;1:33-36. doi:10.2147/JBM.S8385.

[8] Lombardo EM, Maito FL, Heitz C. Solitary plasmacytoma of the jaws: therapeutical considerations and prognosis based on a case reports systematic survey. Brazilian Journal of Otorhinolaryngology. 2018;84(6):790-8. https://doi.org/10.1016/j.bjorl.2018.05.002.

[9] Grammatico S, Scalzulli E, Petrucci MT. Solitary plasmacytoma. Mediterranean Journal of Hematology and Infectious Diseases. 2017;9(1). doi: 10.4084/MJHID.2017.052.

[10] Finsinger P, Grammatico S, Chisini M, Piciocchi A, Foà R, Petrucci MT. Clinical features and prognostic factors in solitary plasmacytoma. British journal of haematology. 2016;172(4):554-60. https://doi.org/10.1111/bjh.13870.

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