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INCIDENTAL DISCOVERY OF A BROWN MAXILLARY TUMOR DURING THE MANAGEMENT OF A JUGAL BCC: A CASE REPORT

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ABSTRACT

A brown tumor(BTs) is a benign fibrotic, erosive bone lesions that result from prolonged, untreated hyperparathyroidism. Even though brown tumors are one of the pathognomonic signs of primary hyperparathyroidism, they are not often seen in clinical practice. In this work, we report a case of a 50-year-old man with swelling of the right cheek and CBC skin lesions. As part of the staging work-up, a CT scan revealed cystic-like osteolytic lesions in the right maxilla, diagnosed as brown tumor associated with primary hyperparathyroidism due to a parathyroid adenoma. This case is particular since we discovered the maxillary lesion incidentally.

KEYWORDS

Brown tumor, CBC, Hyperparathyroidism, Parathyroid adenoma

MAIN ARTICLE

Introduction

Brown tumors (BTs) are benign bone lesions that result from prolonged, untreated hyperparathyroidism(1).

BTs can occur in primary or secondary hyperparathyroidism; however, they are rarely seen in clinical practice(2).

Maxillary brown tumor as the initial presentation of primary hyperparathyroidism is rare; brown tumors of the mandible, palate, or other facial bones often accompany it.

The name “brown tumor” comes from the brown coloration due to hemosiderin deposition within the lesion(2).

In our case, we discuss how the patient presented with a maxillary BT secondary to PHPT, which was fortunately discovered while treating a cheek CBC.

Case report

We report the case of a patient who presented to our facility with a right cheek lesion that had been evolving over two years, with a progressive increase in size(Fig. 1).

The patient didn’t have any history of renal failure or any other illness.

Clinical examination revealed an ulcerative and exophytic lesion on the right cheek, with a second lesion located on the ipsilateral nasal ala, accompanied by slight swelling of the right cheek.

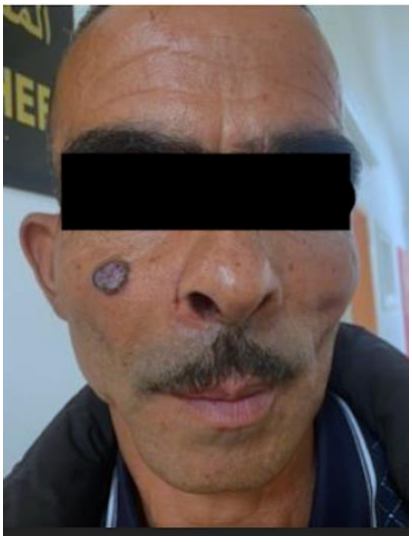

Figure 1 : Picture of the patient showing the skin lesions

A biopsy was performed, and histological analysis confirmed the nodular basal cell carcinoma diagnosis for both lesions.

As part of the staging work-up, a CT scan revealed cystic-like osteolytic lesions in the right maxilla(Fig. 2).

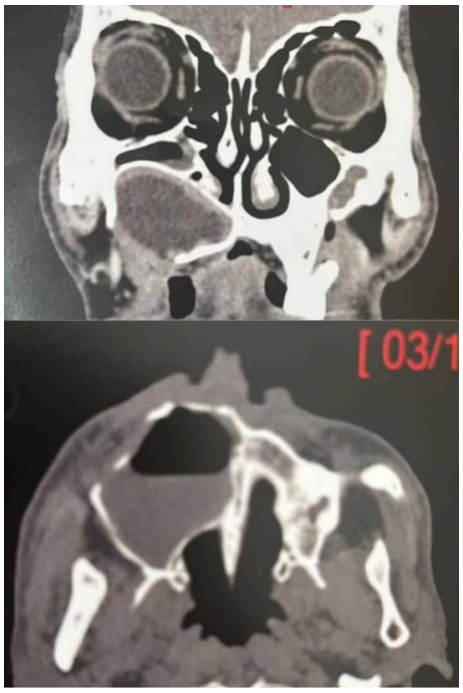

Figure 2 Ct scan showing cystic lesion of the maxillary bone

Further evaluation with a full lab work showed a high level of parathyroid hormone (PTH) and high serum calcium, and a normal renal function, confirming primary hyperparathyroidism.

Ultrasonography of the neck and a parathyroid scintigraphy (99mTc-MIBI) showed a 10 mm × 8 mm solitary mass at the left lower thyroid lobe, suggestive of a solitary parathyroid adenoma(Fig. 3).

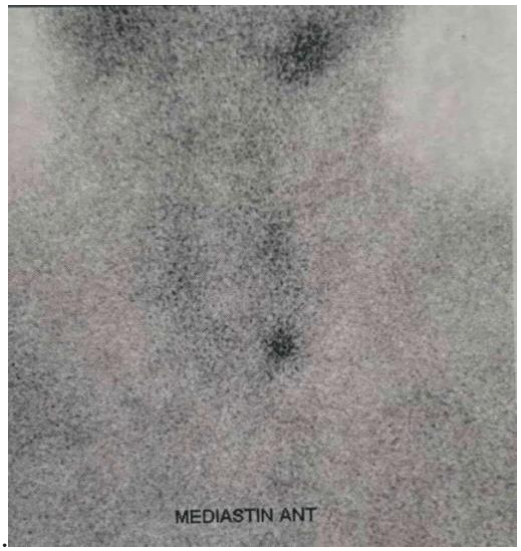

Figure 3 Parathyroid scintigraphy showing a solitary mass at the left lower thyroid lobe

A parathyroidectomy with excision of the maxillary lesion was performed. Histopathological examination revealed a left lower parathyroid adenoma sized 9× 10 × 15 mm and confirmed the diagnosis of brown tumor(Fig. 4).

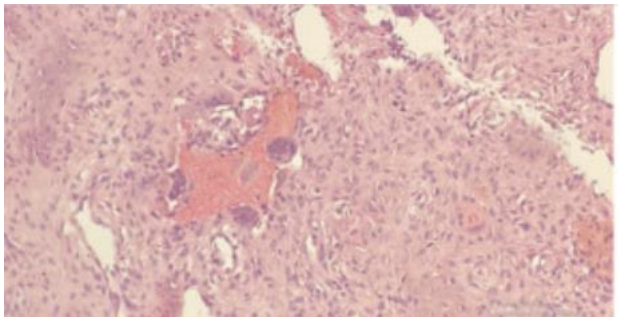

Figure 4 : histopathological exam showing multinucleated giant cells

Five days postoperatively, PTH level decreased to 14.3 pg/mL.

Discussion

Brown tumors are caused by hyperparathyroidism, which may be primary or secondary. They are a form of cystic fibrous osteitis and have an overall incidence of 3%(3).

Primary hyperparathyroidism is more common in females than males, and the peak incidence occurs in the 5th decade of life(1,4).

A brown tumor is a bone lesion that results from prolonged hyperparathyroidism. It causes increased osteoclastic bone resorption and replacement by fibrous tissue and giant cells(2).

Craniofacial brown tumors are sporadic; the mandibular bone is more commonly involved than the maxillary bone. A brown tumor is more of a reactive lesion than a true tumor(4,5).

The imaging shows nonspecific osteolysis that mimics tumoral and metastatic bone disease features. The most common appearance is bone destruction with ill-defined borders, resulting in a blowhole cortical appearance(5,6).

In a maxillary process, only a high level of PTH can suggest a brown tumor.

A high PTH level with a normal to high blood calcium level is in favor of brown tumor due to primary hyperparathyroidism.

There is agreement that parathyroidectomy is the treatment of choice for primary hyperparathyroidism; however, opinions are divided regarding bone lesions. Authors such as Scott et al. believe that bone lesions disappear spontaneously after the diseased parathyroid gland is removed; others, such as Martinez-Gavidia et al., recommend surgical removal of the bone lesion.(1,3,4)

In our case, we proceeded to surgical removal of the bone lesion with parathyroidectomy.

Conclusion

A brown tumor is a bone lesion that results from prolonged hyperparathyroidism. It’s more of a reactive lesion than a true tumor.

Parathyroidectomy is the treatment of choice for primary hyperparathyroidism. In our case, a parathyroidectomy with excision of the maxillary lesion was performed.

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REFERENCES

1. Fedhila M, Belkacem Chebil R, Marmouch H, Terchalla S, Ayachi S, Oueslati Y, et al. Brown Tumors of the Jaws: A Retrospective Study. Clin Med Insights Endocrinol Diabetes [Internet]. 2023 Jan 1 [cited 2025 Jun 16];16:11795514231210144. Available from: http://www.ncbi.nlm.nih.gov/pubmed/37942058
https://doi.org/10.1177/11795514231210143

2. Antin F, Bakhos D, Jegoux F, Merkouza M, Laccourreye L. Maxillofacial brown tumours: Series of 5 cases. Eur Ann Otorhinolaryngol Head Neck Dis. 2018 Aug 1;135(4):227-30.
https://doi.org/10.1016/j.anorl.2018.03.005

3. Proimos E, Chimona TS, Tamiolakis D, Tzanakakis MG, Papadakis CE. Brown tumor of the maxillary sinus in a patient with primary hyperparathyroidism: a case report. J Med Case Rep [Internet]. 2009 Jul 6 [cited 2025 Jun 16];3:7495. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19830212
https://doi.org/10.4076/1752-1947-3-7495

4. Malika F, Taali L, Akssim M, Reda A, Rouadia S, Mahtar M, et al. Tumeur brune du maxillaire révélatrice d'hyperparathyroidie primaire: À propos d'un cas et revue de la littérature. Pan African Medical Journal. 2013;14.
https://doi.org/10.11604/pamj.2013.14.21.1359

5. Hon-Ke Sia a MCH a, LHY b, STT a. Maxillary brown tumor as initial presentation of parathyroid adenoma: A case report. The Kaohsiung Journal of Medical Sciences The Kaohsiung Journal of Medical Sciences. 2012 Jul;28(7):400.
https://doi.org/10.1016/j.kjms.2012.02.008

6. Yamaga E, Fujioka T, Asakage T, Miura K, Tateishi U. 18F-FDG-Detected Brown Tumor Confined to the Maxillary Bone with Parathyroid Adenoma. Clin Nucl Med. 2022 Mar 1;47(3):236-8.
https://doi.org/10.1097/RLU.0000000000003897