Mandibular and Rib Persistent Brown Tumors of Secondary Hyperparathyroidism

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A woman on her fifth decade of life with chronic kidney disease on peritoneal dialysis (PD for 2 years presented with long lasting right mandibular swelling. She had undergone right mandibular tumefaction curettage with ensuing recurrence. X-ray revealed a well-defined osteolytic bubbly bone lesion on the right mandibular body (Fig. 1 – A), and a second expansive lytic lesion on the 6th right rib (Fig. 1 – B). Chest computerized tomography (Fig. 1 – C) confirmed a lytic and expansive bone lesion and raised the possibility of aneurysmal bone cyst.

Figure 1. Brown tumors evidenced by two well-defined osteolytic lesions with bone expansion: on the right mandibular body with a maximal diameter of 3 cm, on X-ray (Fig. 1-A) and on the 6th right rib, with 4 cm of biggest diameter, on X-ray (Fig. 1-B) and on computerized tomography (Fig. 1 – C).

At presentation, calcium levels were 8.6 mg/dL and phosphate 5.0 mg/dL on sevelamer 7200 mg/day. Since PD institution, median parathyroid hormone (PTH) levels fluctuated around 450 pg/mL, on a variable dose of alfacalcidol. However, prior to beginning PD, PTH had reached a maximum concentration of 923 pg/mL. Alkaline phosphatase concentration was persistently normal and Adragão score[1] was 0 on both available determinations.
Diagnosis of brown tumors was established. Brown Tumors are focal bone lesions, caused by increased osteoclastic activity and fibroblastic proliferation, encountered with an incidence of 3% in primary hyperparathyroidism

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and 1.5% in secondary hyperparathyroidism.[2] They are most frequently encountered in the ribs, clavicles, pelvic girdle, extremities and facial bones.[3] Presentation ranges from incidental finding to swelling, pain and even pathologic fractures.

This report highlights the lasting consequences of out of target hyperparathyroidism and the importance of suspecting Brown tumors diagnosis, which can avoid invasive procedures and allow for treatment individualization.

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LP: Interpretation of data, draft revision, final approval, accountable for all aspects.
AO: Conceptualization, draft revision, final approval, accountable for all aspects.
AB: Conceptualization and supervision, draft revision, final approval, accountable for all aspects.

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