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Visceral Radiology

Calcinose Tumor: A Case Report with Review of the Radiological Literature

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Abstract | **Case Report**

Tumoral calcinosis, also known as Teutschländer disease, is a rare familial disorder characterized by painless periarticular masses [1]. Strictly speaking, the term refers to a disease caused by an inherited metabolic dysfunction of phosphate regulation associated with massive periarticular calcinosis, and not to soft tissue calcification in general [2]. The most frequent localizations are the hips, shoulders and elbows [3].

Keywords: Calcium Deposits, Periarticular Calcifications, Hyperphosphatemia.

INTRODUCTION

Tumoral or pseudotumoral calcinosis corresponds to deposits of calcium phosphate crystals (apatite) in periarticular soft tissues, forming voluminous calcified masses [4]. A role for joint microtrauma and hyperphosphatemia has been suggested [5]. Clinically, it manifests as periarticular swelling of progressive onset, limited mobility, nerve or vascular compression, local inflammation if deposits dissolve (possibly mimicking septic arthritis), or even skin fistulation [6]. It mainly affects adolescents and young adults [1]. Familial forms (autosomal recessive inheritance) are associated with abnormalities in phosphocalcium metabolism, notably hyperphosphatemia [7]. Sporadic forms are more frequent and often normophosphatemic [8].

OBSERVATION

Diffuse and painful pseudotumor calcinosis in a 44-year-old patient for 14 years.

He currently presents for: recrudescence of pain since last hospitalization, neck pain and pain in both shoulders (G>D), left knee pain; pain opposite right heel of recent onset, mechanical in schedule, nocturnal awakenings rather positional, no morning unwinding, walking perimeter limited to 100m, walking with 2 crutches, involuntary loss of 4 kg in 1 month without anorexia.

Multiple attempted hip resections (last in 2021, 3 in total) with lesion enhancement in the course.

PET CT scan: no condensation in lung parenchyma. No deep abdominal infection.

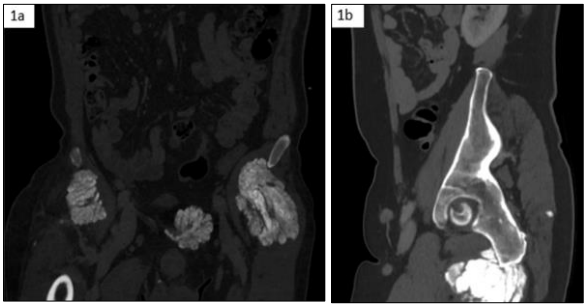

Figure 1: Coronal section (1a) and sagittal section (1b) abdominal bone window: muscular calcification opposite the anteroinferior crest of the iliac wing bilaterally, the left greater trochanter and prepubic bones

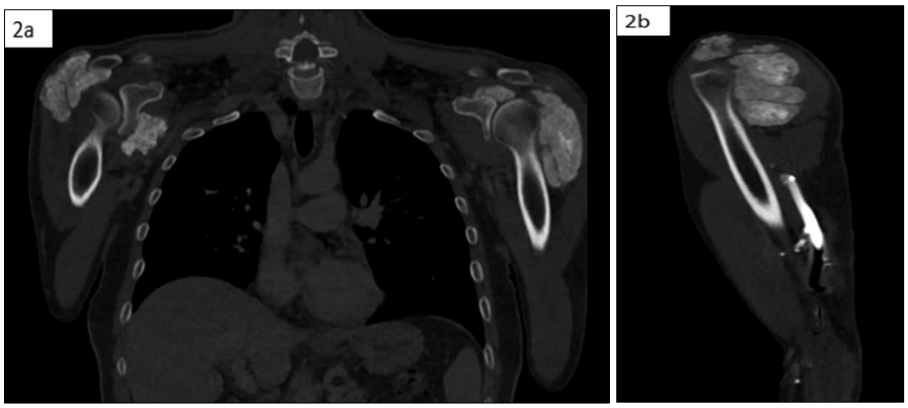

Figure 2: Coronal section (2a) and sagittal section (2b) bone windows in the arms: shoulder calcifications.

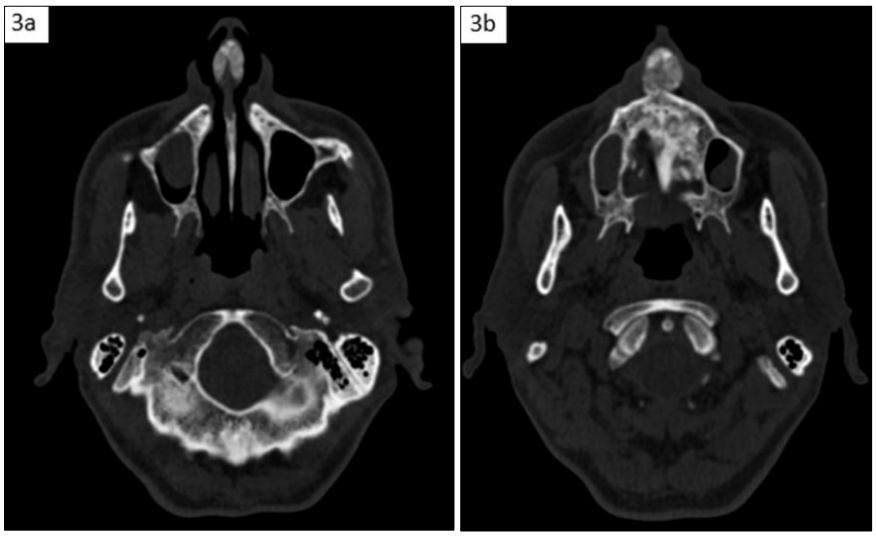

Figure 3: Axial cross-section of the brain in a bone window: amorphous calcifications under the tip of the nose

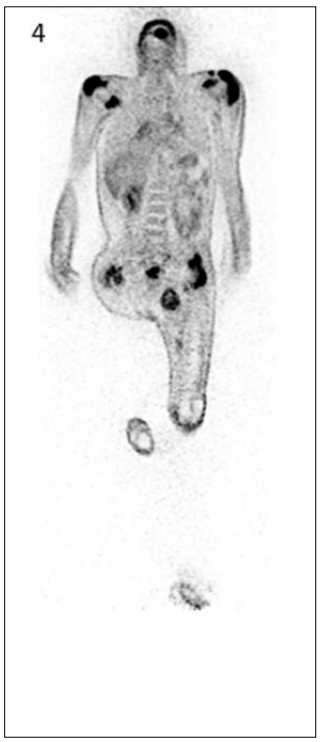

Figure 4: PET scan: shows hyperfixation of both shoulders and pelvis

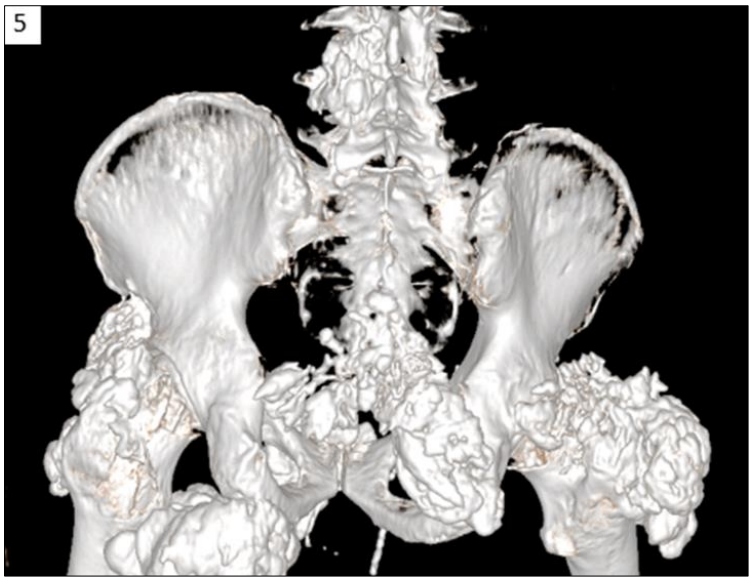

Figure 5: 3D volumetric surface representation in scans

DISCUSSION

The patient presented with hyperphosphatemic pseudotumor calcinosis of the hips, opposite the sacrum, prepubic and shoulders, revealed in the face of an altered general condition with biological inflammatory syndrome.

– **Etiological Findings:**

Abnormal phosphocalcium balance: hyperphosphatemia and hypercalcemia with low PTH. DOT myositis negative.

AAN and anti DNA negative. PET-CT scan shows no underlying infectious or neoplastic process.

– **Pre-Therapy Work-Up:**

HIV/HBV/HCV serologies and Quantiferon negative.

Dental panoramic and sinus CT scans showed amorphous calcifications under the tip of the nose, in favour of pseudotumoral calcinosis in this context. Apico-dental granuloma of 31. No evidence of sinus infection.

– In practice, after a multidisciplinary meeting:

Crisis Treatment:

Crisis treatment with Anakinra, an IL-1 antagonist, has led to partial improvement [9] (70% of pain at rest but 0% of pain on exertion improved).

Monitoring:

Calcium, phosphorus, urinary phosphorus, PTH, 25 OH vitamin D checked 1 week after introduction of NICOBION and RENVELA, then monitored by urea, creat, GFR, PTH, calcium, phosphorus. Traitement de fond mis en place:

1. Colchicine.
2. Sodium thiosulfate (used in severe cutaneous calcinosis) [10].
3. Phosphorus chelators (Sevelamer/Renvela type) [11], combined with Nicobion (vitamin B3).

Post-Treatment CT scan:

Regression of most of the pseudotumoral calcifications: Bilateral within the gluteals, particularly on the left side. Around the muscles at the tip of the right femur. Discrete regression of muscular calcifications in contact with the left anteroinferior spine, notably in the iliopsoas and lesser gluteal muscles. Around left posterior joints in L3, L4. Discreet regression of calcifications around the upper extremities of the bilateral humeri.

CONCLUSION

Tumoral calcinosis is a rare entity, recognizable on imaging by its typical features: well-limited, multiloculated periarticular calcific masses, sometimes with hydrocalcific levels [12]. Knowledge of its primary and secondary forms is essential for differential diagnosis of pseudotumoral lesions.

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