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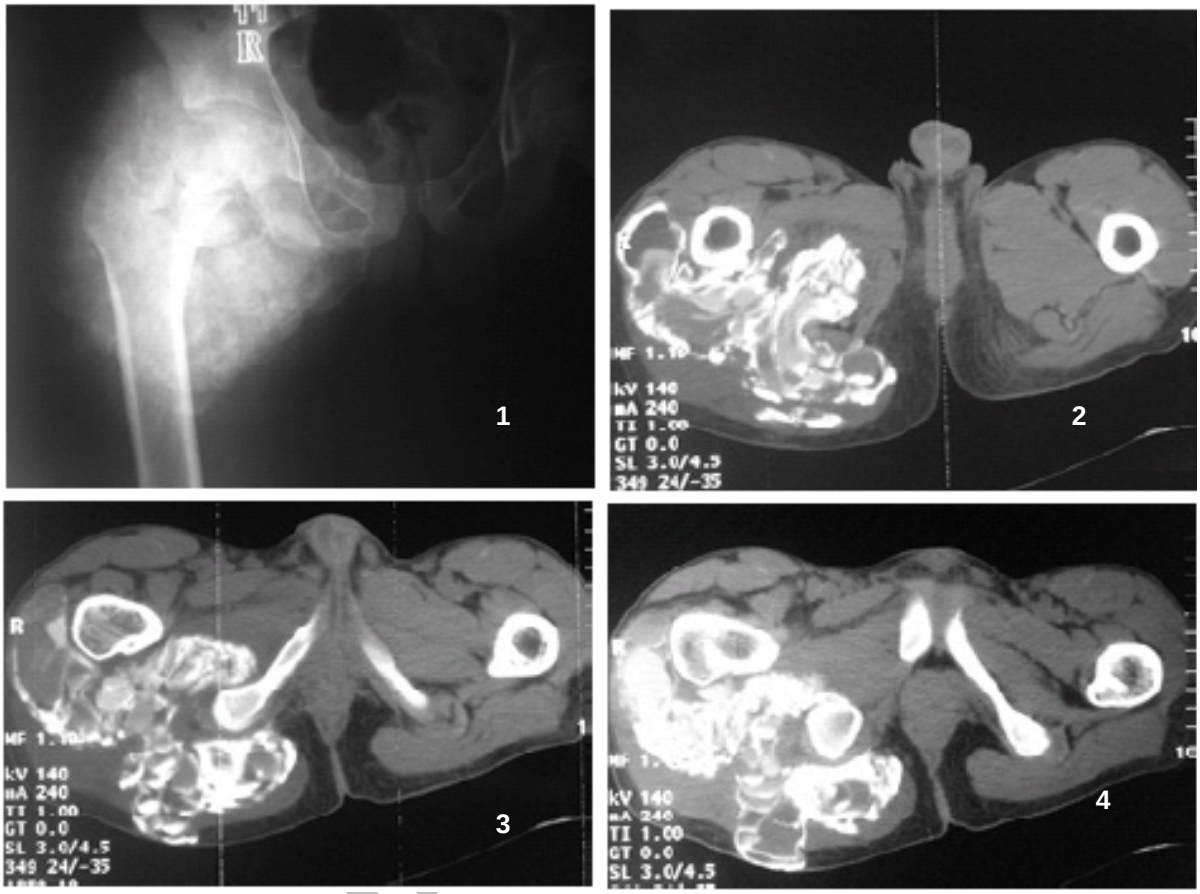
Photoclinic



Figures 1 – 4. Plain x-ray and CT scan of the hip mass.

A 17-year-old man was referred for evaluation of a hip mass. He had a history of local swelling with limitation of motion in his right hip. There was no history of trauma or renal disorder.

After computed tomography (CT), the mass was removed for histopathologic study.

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What is Your Diagnosis?

See the next page for the diagnosis

Photoclinic Diagnosis: **Tumoral Calcinosis**

Tumoral calcinosis is a rare disease characterized by calcified soft tissue masses near large joints. Approximately one-third of the cases exhibit familial inheritance.[1] Nearly 80% of reported patients are black. Typically, it presents in young African men with swelling around large joints which could be painful. However, the mass is generally painless and grows slowly over a year.

The disease predominantly affects the extensor surfaces. The hips are most frequently involved followed by elbows and shoulders. The joints themselves are normal.[1]

An error in metabolism of phosphorus is believed to be the etiology of this disease. Abnormal reabsorption of phosphorus in the proximal renal tubules causes deposition of hydroxyapatite crystals in synovial bursae, marrow, dental pulp, vessels, skin.[2]

The serum calcium, parathyroid hormone, and alkaline phosphatase levels are normal in spite of increased phosphorus and 1,25-dihydroxy vitamin D levels.[3]

These masses arise in the fascial planes between the muscles and become calcified or ossified. Larger masses can limit the motion in the adjacent joint. They may compress adjacent nerves or ulcerate the skin and form sinus track with chalky milk- like drainage. [4]

The radiographic hallmark of tumoral calcinosis is large multiglobular calcified deposition in para-articular areas, usually along the extensor surface of joints. This calcified material may be paste- like and have a homogeneous dense radiographic appearance or may be a semifluid milk of calcium and show sedimentation in the standing radiograph.[5]

Computed tomography precisely shows the extension of the lesion. It also reveals milk of calcium as fluid-fluid levels very well.[2]

On ultrasonography, tumoral calcinosis appears as cystic masses with multiple septations and layers of echogenic calcium debris. Despite the limitations of magnetic resonance imaging (MRI) for the evaluation of calcified lesions, it may reveal bone marrow edema in the adjacent bones (high signal on T_2-weighted images). The calcified lesions may be discriminated by high signal (on T_2) areas due to granulation tissue. MRI also reveals fluid levels. Dental pulp calcification (pulp stone), vascular, cutaneous, and dural calcification are other manifestation of tumoral calcinosis.[2–4]

The main differential diagnoses are periarticular calcium deposition in pseudoxanthoma elasticum and renal osteodystrophy.[6] Rarely, there are associated periosteal reaction of the greater trochanter, ischium,and elbow.

Surgical resection is the treatment of choice if the lesion can be removed en block. Otherwise, there will be a high chance of recurrence.[6]

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