Tophus of the Pubis Bone: A Case Report

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What to Learn from this Article?

Presentation and Diagnosis of Focal Amyotrohic (Hirayama's Disease).

Abstract

Introduction: Chronic tophaceous gout classically occurs after 10 years or more of recurrent polyarticular gout. However, tophi can also occur as first sign of the disorder.

Case Report: We report the case of a 60 year female with tophaceous involvement of the pubis bone which is an unusual location for this type of pathology without any prior manifestation of gouty arthritis.

Conclusion: Tophi can present in unexpected locations, even as the first sign of gout, often mimicking infection and neoplasia and vigilance is required when unusual symptoms or signs occur in a patient with gout.

Keywords: Gout, Tophus, Pubis Bone

Author's Photo Gallery

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Introduction

Gout, a type of inflammatory arthritis that results from deposition of monosodium urate (MSU) crystals in the synovial fluid and other tissues, typically follows a clinical course, first with years of asymptomatic hyperuricemia, followed by acute intermittent attacks, and eventually with chronic arthritis with the formation of tophi, or collections of MSU crystals that have served as the nidus of a granulomatous reaction [1]. Although gouty tophi are seen in chronic disease, tophi may be first sign of the disorder. Here, we report a sixty-year-old female with normal blood uric acid level who presented with tophus of the pubis bone as a cause of groin pain prior to any other manifestation of gout.

Case Report

A 60 year old female was admitted with a 5 day history of severe pain in the right groin and right hip and was unable to weight bear . She had no previous history of any medical co-morbidity. On examination there was diffuse tenderness in the right groin and she was unable to lift the right leg due to pain. Significant blood results included erythrocyte sedimentation rate 33mm/hr, leucocyte count 12800/cmm , serum creatinine 0.67mg/dl and serum uric acid 5.6 mg/dl. Blood cultures were negative.

Plain x-ray examination of the pelvis showed extensive osteolytic involvement of the right pubis bone. MRI of the pelvis showed a lesion involving the right pubic bone which showed mild expansion and predominantly lytic in nature with associated lobulated soft tissue between pectineus and adductor muscles suggestive of a neoplastic etiology. Subsequently a CT guided

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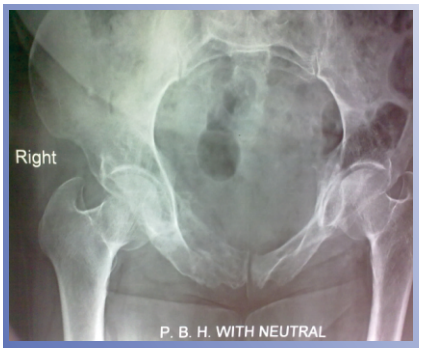

Figure 1: Radiograph showing osteolytic lesion of the right pubis. This is a PBH radiograph of the patient done at the time of admission. It is suggestive of extensive osteolytic involvement and cortical erosion of the right pubis bone

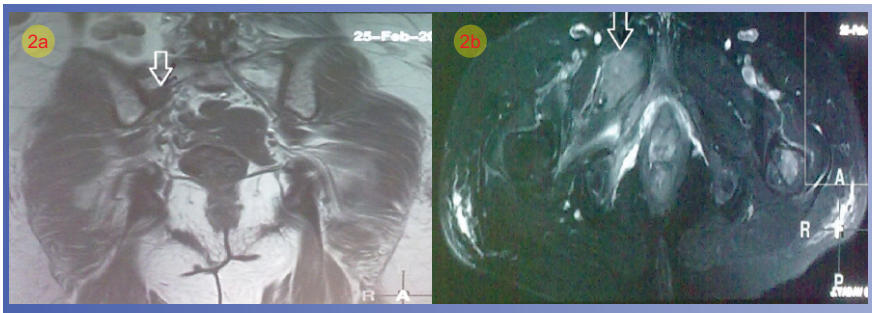

Figure 2: Coronal and axial T1 MRI images of the pelvis shows the expansile oseolytic lesion of the right pubis with associated lobulated soft tissue involvement (arrow shown).
These are the coronal and axial T1 magnetic resonance images of the pelvis which shows a hypointense lesion of the right pubis bone. It shows mild expansion and predominantly lytic in nature. There is evidence of cortical break with associated lobulated soft tissue between pectineus and aductor muscles. These findings are most likely suggestive of a neoplastic etiology like metastases or multiple myeloma

biopsy of the pubic soft tissue lesion was done. The histopathological examination of the biopsy material showed fibrocollagenous soft tissue with multiple deposits of urate crystals surrounded by several multinucleated giant cells, histiocytes and lymphocytes. There was no evidence of caseating epitheloid granulomas or malignancy. The above histopathological report confirmed the diagnosis of gouty tophus and ruled out other crystallopathy such as pseudogout.

Treatment was started with colchicine 0.6 mg twice daily, and morphine was required for adequate analgesia. After 48 hours, she was able to mobilise independently with a frame and was discharged home several days later. Subsequently, low dose allopurinol was added under the colchicine cover and was slowly titrated to a maximum dose of 150 mg daily. The patient was followed up for a period of one year on telephonic conversation. She was taking anti-gout medications regularly and was pain free. However no biochemical or radiological investigation were available in the follow up period.

Discussion

Gout is a metabolic disease, characterized by the deposition of monosodium urate crystals in the interior of the joints and peri-articular tissues. This condition occurs in patients with serum concentrations of uric acid greater than 7 mg/dL, either due to an increase in production or a decrease in excretion [1]. Gout is a disease more commonly found in men than in women (i.e., 9 male cases for each case in a woman) and usually occurs during the 5th and 6th decades of life[2].

The disease can manifest in four forms: asymptomatic hyperuricemia, gouty arthritis, intercritical gout, and chronic tophaceous gout. In the chronic phase of the tophaceous gout, the tophi appear and consist of a mass of monosodium urate crystals. These crystals are surrounded by cells that typically characterize an inflammatory response, including immature fibroblasts, lymphocytes, plasma cells, macrophages, and foreign body giant cells [3].

Gouty arthritis is evident when tissues have been exposed to hyperuricemic fluids for years. The initial clinical presentation is often due to the involvement of the first metatarsophalangeal joint, followed by the ankles, knees, wrists, and the interphalangeal hand and shoulder. Gouty tophi have been documented to occur after 5 years of the development of arthritis and are usually visible under the skin, joints, and limbs. They are commonly found in the olecranon bursa, the infrapatellar and Achillestendons, in the subcutaneous tissue of the extensor surfaces of forearms, on the joints, and occasionally in the helix handset. The intradermal tophi are less frequently located on the palms and fingertips [4].

Gouty tophi have been reported in other unusual locations, such as the arytenoid cartilage, vocal cords, laryngeal tophi, myocardium, cardiac conduction system, mitral and aortic valves, eyes, and spinal cord [4].

The primary medical treatment for chronic tophaceous gout includes alterations in lifestyle (i.e., weight reduction, low-purine diet, high fluid intake, reduced alcohol consumption, and withdrawal of diuretics). If the hyperuricemia cannot be corrected by these methods, we will have to use drugs. We should use the characteristics of our patients to guide treatment selection. Probenecid is a uricosuric drug that can be used in patients with good kidney function, who excrete some uric acid. In patients with renal failure, and who are taking diuretics, the choice medication would be another type of uricosuric and/or allopurinol [5]. The use of uricosurics has permanently decreased tophaceous gout and the associated arthritic

changes by almost 50% when compared with their disuse. In the present case, our patient was treated with allopurinol; due to which the pain subsided and the tophi were moderately controlled.

Surgical treatment may be indicated depending on the extent of the patient's problem, the response to therapy and the functional impairment due to the compression of structures [6].

Tophaceous gout can be the first manifestation of gout and can exist even in the absence of arthritis. Chronic tophaceous gout classically occurs after 10 years or more of recurrent polyarticular gout, and the development of tophi in the absence of prior episodes of gouty arthritis is unusual [7].

Tophaceous gout affecting the symphysis pubis is an extremely rare event, with only 2 reported cases in the literature [8, 9]. Radiographic findings along with the facts that this patient had no prior history of gout and considering the unusual location of the gouty tophus makes this case unique

Conclusion

Gouty tophus can be the first manifestation of gout and can exist even in the absence of arthritis. Tophi can present in unexpected locations often mimicking infection and neoplasia. Clinicians should be aware of both the above possibilities and investigate thoroughly in such cases.

Clinical Message

Gout is a common metabolic disorder presenting mostly with arthritis and hyperuricemia. However tophus can be the first presentation of gout and it can occur in unusual locations. Hence, physicians should be vigilant when unusual signs and symptoms occur in a patient with gout.

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