Case Report:

Extraosseous gout presenting as subcutaneous nodules

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ABSTRACT:
Gout is a metabolic disorder caused by deposition of monosodium urate crystals within the joints. We present a case of a 63 year old man, a traumatic right leg amputee who came with complaints of swelling and three localised painful swellings over the dorsum of left foot. Fine needle aspiration of the largest nodule done showed gouty crystals , which was further confirmed on polarizing microscopy. The cytopathologists must be aware of these features especially in cases of atypical presentation. The technique was extremely useful in our case as it helped, not only in diagnosing the condition, whose presentation was atypical, but also aided in the treatment of the patient with minimal intervention

Keywords : Gout , metabolic disorder

INTRODUCTION:
Gout is a well known disorder of purine metabolism, and nowadays the best understood and most manageable of all common systemic rheumatic diseases, with an incidence of 1 – 2 % in developing countries. It is a disease with a predilection for small joints of the extremities. Other than classical monoarticular arthritis, gout can also affect tendons & subcutaneous tissues as nodules. [1].Although cases of gout presenting with subcutaneous swellings have been documented, its diagnosis based only on fine needle aspiration are not many in literature, considering that the presentation was also atypical in our case.

CASE REPORT:
A 63 year old male, a traumatic right leg amputee, known hypertensive on treatment with since 5 years, came to the surgical OPD with swollen & painful left foot. On examination the foot was tender, swollen and had three localised tense swellings over the dorsum of left foot

Fig 1 : Dorsum of left foot showing the localised swellings, the largest after incision and drainage

Fine needle aspiration was asked for, which extruded chalky white paste like material.
The smears were stained with Pap and Leishman & Giemsa. Simultaneously ZN, Gram’s stain, culture and KOH mount were done, to rule out an etiological organism if any & all were negative. X ray showed changes of chronic arthritis retention of joint space and increased soft tissue density
Fig 2: X-ray foot showing features of chronic arthritis and pathological fracture

Routine blood investigations showed neutrophilic leucocytosis and raised ESR. Serum uric acid was 7.8 mg/l. RA factor was negative.

Cytology smears showed dense pale yellow to brown coloured amorphous, refractile deposits and dense neutrophilic infiltrate.

A closer look at thinner areas revealed pointed, needle-like structures in sheaves and groups. Under polarizing microscope, needle shaped negatively birefringent crystals were observed confirming the diagnosis of gout.

Fig 3A: Leishman stain 10 X showing dense neutrophilic infiltrate and brown granular material.

Fig 3b: High power of the brown areas showing thin needlelike structures.

Fig 4A: MSU crystals on unstained slide under polarising microscope.

Fig 4B: MSU crystals on Hand E slide under polarising microscope.

The patient was started on symptomatic drugs to control the inflammation along with colchicines and was discharged subsequently.

DISCUSSION:

Gout “the king of diseases and the disease of kings” was first identified by the Egyptians with evidence dating back to the Hippocratic writings. It is a disorder of purine metabolism, resulting from urate crystal deposition in and around the joints often caused by long standing hyperuricemia, with prevalence being higher in men [1].

Gout can be primary or secondary, the latter being attributed to the use of several drugs including
diuretics, which may have been the precipitating factor in our case too. The presentation can be acute or chronic. Acute gouty arthritis manifests as excruciating pain, with red, hot, tender joints, sometimes with systemic manifestation like fever, raised leukocyte count and ESR, the first metatarsal joint being involved only in half the cases at first attack. [2] Tophi are usually seen around the joints, but can sometimes be identified in the subcutaneous tissue of the skin or superficial intradermal collections resembling pus [1]. In our case, presentation was acute, with supportive blood findings, and the main focus was on the localised, extra osseous swellings, which posed a diagnostic challenge.

Hyperuricemia though important can sometimes be normal in acute gout [3]. Cases of septic arthritis mimicking & co-existing with acute gout, have been reported. The two can even be difficult to differentiate clinically, needing Gram’s stain, synovial fluid examination/biopsy when possible [4]. In our case gram’s stain & culture were negative.

Minimally invasive techniques like fine needle aspiration cytology can be definitely taken into consideration before planning any medical or surgical treatment as it is simple, inexpensive and fairly reliable technique without any obvious disadvantages. [5] Sah et al suggested that the presence of amorphous or granular material should alert the cytopathologist to examine the smear under a polarizing microscope to avoid diagnostic pitfall. [6] CPPD crystals of pseudogout must be ruled out by their rhomboid rather than needle shape and positive birefringence (CPPD), and any calcified material in tumoural calcinosis shows amorphous basophilic deposits on smears. MSU crystals on polarizing microscopy show strong negative birefringence and are needle shaped. [7].

Treatment of gout is NSAID with hypouricemic drugs like colchicines, with surgery reserved for cases with tophi in a critical location as the conventional enucleating procedure can lead to complications. [8]

CONCLUSIONS:
Atypical presentation of gout must be kept in mind when extra osseous localised, tense swellings on foot exude white chalky material. Fine needle aspiration cytology, being a simple technique can be diagnostic in cases like ours, where the patient was also an amputee, thereby avoiding other interventions. A high index of suspicion for monosodium urate crystals must be kept in mind, while the cytopathologists looks at amorphous granular material on smears. Polarizing microscopy of the same is recommended to avoid overlooking gouty crystals.

REFERENCES:

