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Original Research Paper

Pathology

GOUTY TOPHUS MASQUERADING AS DIABETIC FOOT DIAGNOSED ON FNAC : A CASE REPORT

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ABSTRACT Nodular swelling around joints can be a dilemma in diagnosis for clinicians as well as pathologists.Any periarticular swelling has a wide range of differential diagnosis. We here present a case of 52 yr old male with uncontrolled diabetes presenting with nodular swelling at right lateral malleolus misdiagnosed as diabetic foot .FNAC revealed presence of Mono Sodium Urate crystals. In further investigation high serum uric levels were detected and diagnosis of gouty tophus was made. We here highlight the role of FNAC as a diagnostic tool for Gouty Tophus.

KEYWORDS : Gouty tophus

Introduction:

Gout is a disorder of uric acid metabolism that causes deposition of monosodium urate crystals in joint spaces, which, in turn, elicits an acute inflammatory reaction. It often presents with painful joint effusion and commonly is diagnosed either by clinical examination and elevated serum uric acid level[1] and by cytologic examination of an effusion.[2,3] The metatarsaophalangeal joints are often the first to be involved ;but other joint of the hand and feet are also frequently involved. The various periarticular nodules could be ganglion cysts,gouty tophi, rheumatic nodules and synovial chondromatosis to synovial sarcoma.[4]The indisputable advantages (simplicity, rapidity, reproducibility, innocuousness and low cost) of FNA for the study of accessible lesions, either by palpation ,radiology and endoscopy have lead to rapid expansion of this technique for the study of wide range of pathologies.[5]

We here present the clinicocytological features in a diabetic patient of gouty tophus misdiagnosed as diabetic foot clinically and subsequently correct diagnosis made on FNAC.

Case Report :

We present a case of52 yr old male known diabetic with uncontrolled sugar levels on Oral HypoglycemicAgents with history of swelling on right lateral malleolus since 2 years.Patient was working abroad and presented on our side for evaluation on returning home. The swelling on clinical examination was 4X5 cm ,irregular firm to hard with bosselated surface.(Fig.1)

The swelling was non tender and had discharging sticky whitish material from multiple sinuses on compression.There was no history of joint pain or arthropathy.Routine investigation showed raised Random blood sugar levels(=202 mg/dl),Fasting Sugar =138 mg/dl and Post prandial blood Sugar=286 mg/dl. X-Ray had findings of soft tissue swelling, there was no evidence of bone erosion or calcification in the swelling. On FNA chalky white amorphous material was obtained. The microscopic study of hematoxylin&eosin stained smears revealed abundant granular amorphous material and scattered sheaves of needle shaped crystalloid material. (Fig. 2)

On futherinvestigationhyperuricemia was detected (11.8 mg/dl). With suspicion of gouty tophus the swelling was excised. Histological study showed a typical picture of gouty tophus with accumulation of Mono Sodium Urate crystals surrounded by giant histiocytic cells. (Fig .3)

Discussion:

Gout is characterized by repeated ,relapsing attacks of joint pain in a chronic hyperuricemic crystal induced arthropathy.[6] Diagnosis of gout is straight forward in typical cases as by presence of arthritis and hyperuricemia. However in diabetics and alcoholics both the criteria are absent.Radiological features may also be atypical and misleading. The radiological features of gouty arthritis like soft tissue swelling, bone erosion and solid soft tissue masses (tophi) are not specific and can be seen in various benign and malignant disorders.[7] As in our case patient had no clinical or radiological sign of arthropathy.

FNA has a popular role now in diagnosis of gouty tophus and only few case reports are published in literature.

On cytology, differential diagnosis of crystalline tophus includes tumoural calcinosis and tophaceus pseudo-gout. Tophaceouspseudgout is one of the rare clinical forms of calcium pyrophosphate dihydrate crystal deposition (CPPD) disease. It involves massive CPPD crystal deposition in anatomical sites as temporo-mandibular joint, fingers, toes, cervical spine, wrist, hip etc. [8] Though tophaceous gout and pseudo gout may share some clinical features, radiological calcification is relatively uncommon in gout. Moreover CPPD crystals are shorter, more often rhomboid than needle shaped and show positive birefringence. Tumoural calcinosis is an idiopathic condition presenting as swellings around the large joints (hip, elbow, ankle and scapula).The calcified material in tumoural calcinosis is hydroxyapatite in nature and shows amorphous intensely basophilic granular appearance.[8]

Conclusion: FNAC is a simple,rapid,OPD based, cost effective technique for accurate diagnosis of gouty tophus in case of atypical presentation.

Gouty tophus should be considered as a differential diagnosis in cutaneous periarticular swelling.

ILLUSTRATIONS :

Fig 1. Nodular swelling 4X5 cm in size, firm to hard ,immobile, non tender

Fig. 2 Slender needle shaped crystals in abundance (H & E 400X)

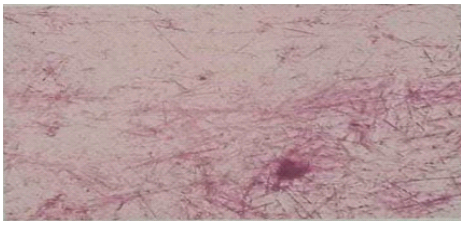
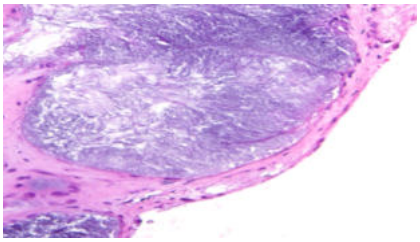


FIG.3 Pale pink areas surrounded by histiocytes H&E 400X



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