DOI:10.24041/ejmr2019.152

AN UNUSUAL PRESENTATION OF GOUTY TOPHI WITHOUT HYPERURICEMIA: A CASE REPORT

Gauri Niranjan, Parul Gupta, Nirupma Lal, Osman Musa*, Sharique Ahmad, Noorin Zaidi, Sumaiya Irfan

*Department of Pathology, Department of Surgery**

Era's Lucknow Medical College & Hospital, Sarfarazganj Lucknow, U.P., India-226003

Received on : 10-02-2019
Accepted on : 04-04-2019

Address for correspondence
Dr. Parul Gupta
Department of Pathology
Era's Lucknow Medical College & Hospital, Lucknow-226003
Email: drpg79@yahoo.co.in
Contact no: +91-8853100914

ABSTRACT

Gout is a disorder of purine metabolism resulting in accumulation of uric acid crystals in joint spaces and other soft tissues. Here is an unusual case of a 42 years male who presented for the first time in hospital with complain of painless swelling over right elbow. His serum uric acid levels were normal. FNAC was suggestive of gouty changes. Two weeks later he came back to surgery department with painful red swollen right toe, surgical exploration showed crystal deposits surrounded by granulomatous inflammation confirming a histopathological diagnosis of gouty tophi. During long term clinical observation of gouty swelling, rupture of tendon can occur as a complication. surgical resection with correct diagnosis and appropriate treatment of the tophi might be needed to prevent further complication.

KEYWORDS: Gout, Tophi, Arthritis, Metatarsophalangeal.

INTRODUCTION

Gout is marked by transient attacks of acute arthritis. It is initiated by crystallisation of monosodium urate within and around joints which results in production of cytokines that recruit leucocytescausing arthropathy (1-3).Goutytophi usually are found in the periarticular tissues, including tendons and ligaments, and particularly around the olecranon process, knee joint, forearm, Achilles tendon, and helix of the ear (4).The first metatarsophalangeal joint (MTP) is very susceptible to acute gouty arthritis and tophi (5). It affects 1–2% of adults in developed countries, generally middle-aged to elderly men and post-menopausal women (6). It can be diagnosed with FNAC of swelling even prior to onset of arthritic episode. Here we report an unusual case of spontaneous rupture of joint swelling affecting metatarsopharnygeal joint (MTP) without hyperuricemia.

CASE REPORT

A 42 year old gentleman presented in surgery unit with painless swelling at right elbow joint since 3 months. There was no significant past history. Patient was non-vegetarian and non-alcoholic. On examination swelling was 3x3cm, firm, non-tender. Initial investigations were within normal limits except elevated CRP. Serum uric acid was then sent which also turned out to be normal . plain radiography of joint space was normal; swelling could be seen in soft tissue space. Patient was then sent for FNAC in department of pathology. White coloured fluid was aspirated. Cytological examination revealed amorphous deposits with needle shaped crystals in background of chronic inflammatory infiltrates. Patient again came to surgery department after 2 weeks with complains of swelling and severe pain in right MTP joint. On examination joint was swollen, red, warm and tender. Sr. uric acid levels were still normal. Fluid was aspirated from joint space. It was yellow in colour, WBC level was 1500 cells/mm^3 out of which neutrophils were 60%, no organisms, c/s was negative. Provisional diagnosis of gout was made. Histopathological examination of the swelling was advised for confirmation of diagnosis. Patient underwent excisional biopsy. On histopathological examination section subcutaneous centered lesion showing variable size eosinophilic deposits of crystals surrounded by haphazardly arranged as well as pallisading histiocytes. Multinucleated giant cells, few foam cells, lymphocytic inflammatory infiltrate was found in peripheral areas (Fig 1a, 1b, 1c & 1d). Confirmatory diagnosis of gouty tophi was given. Later patient was administered antiuricosuric drugs, dietary management and lifestyle modification. The three month follow -up of the patient was uneventful.

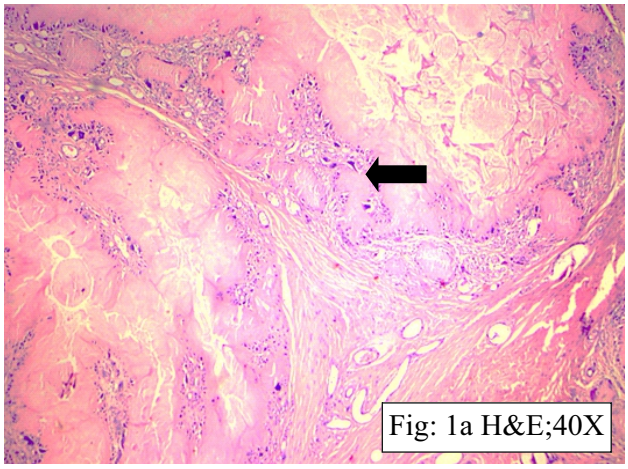

Fig 1a: Granulomatous Inflammation With Central Eosinophilic Homogenous Crystals Deposits

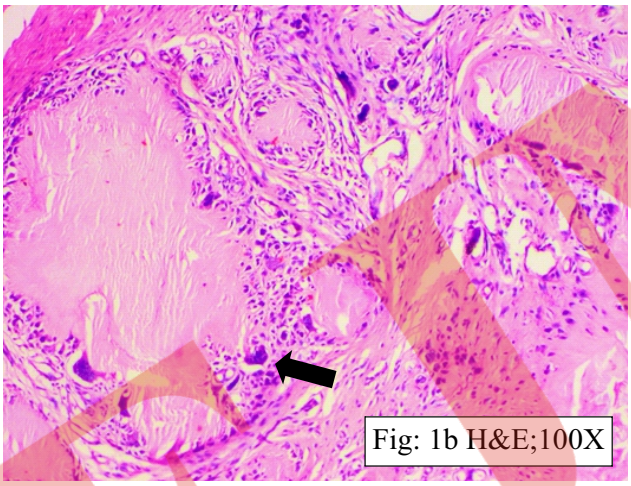

Fig 1b: Granuloma With Peripheral Palisading Histiocytes

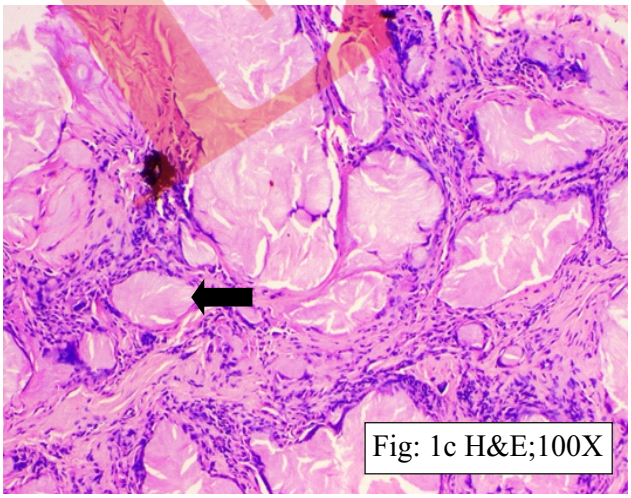

Fig 1c: Amorphous Granular Eosinophilic Crystals Deposit

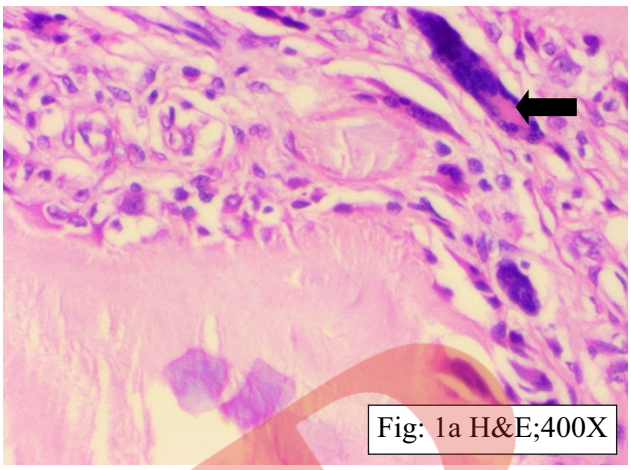

Fig.1d: Multinucleated Giant Cells, Foam Cells & Inflammatory Infiltrate Surrounding The Granuloma

DISCUSSION

Gout is a metabolic disorder. Mostly presentation is with acute attacks of arthritis which are self-limiting and they respond well to medication. In case with long history, urate deposits may produce chalky masses called gouty tophi (7). Uric acid level more than 11.0mg/dl is seen in about 70% cases of patient with gouty tophi (8). Older age, male sex, postmenopausal state and black race are more prone to gout. Certain medications increase risk of developing gout (diuretics, cyclosporine, low doses of aspirin) (9). Serum uric acid levels are generally elevated. Serum uric acid level greater than 7.0mg/dl is considered to be an hyperuricemic condition. However in our case swelling was unusually asymptomatic with normal serum uric acid levels. Subcutaneous nodules over joints can be due to a variety of conditions including gout,pseudogout,tumorous calcinosis ,multicentric reticulohistiocytosis, subcutaneous granulomas, traumatic fibromas, xanthomas, cysts and rarely synovial sarcoma.On cytology tumoral calcinosis and tophaceous pseudogout formation are differential diagnosis of gouty tophi (10-11). However, examining the cytology smears under light microscopy can make a confident diagnosis in most cases, without the need for polarized microscopy. In *tumoral calcinosis* intensely basophilic, calcified material in sections of tissue stained with hematoxylin and eosin stain, whereas gouty tophi reveals needle-shaped crystals. Crystals of pseudogout are much smaller and rhomboid in comparison with monosodium urate crystals (12). In foreign body reactions the histological examination shows a pale basophilic material,with foamy appearance and no needle like clefts. Aneed of surgical intervation in case of gouty tophi which is presents with flexon deformity of fingers and toes , entrapment neuropathy or rarely tendon rupture leading to an acute

episode of painful swelling and deformity. It is important to keep in mind that during observation of gouty tophi, tendon can be involved and may rupture leading to morbidity. Pathologists can play important role in diagnosis of diseases in such cases.

CONCLUSION

Gout may have unusual presentation as painless swelling with no prior episode of arthritis and with normal serum uric acid levels. It may later present with painful arthritic episodes with rupture of tendon. Correct identification and diagnosis of a nodular lesion in joints is important so that disease specific treatment, control of serum uric acid level to prevent tendon rupture and regular follow up can be planned.

REFERENCES

1. Weniger FG, Davison SP , Risin M, et al. Gouty flexor tenosynovitis of the digits: report of three cases. Journal of Hand Surgery. 2003;28:669-672.
2. Lee SS, Sun IF, Lu YM, et al.Surgical treatment of the chronic tophaceous deformity in upper extremities-the shaving technique. Journal of Plastic, Reconstructive and Aesthetic Surgery. 2009;62:669-674.
3. Casal D, Moniz P, Martins P. Giant gouty tophi in the hand: a surgical challenge. Acta reumatolo gica portugues. 2010;35:397-398.
4. Gupta A, Rai S, Sinha R, et al. Tophi as an initial manifestation of gout. J Cytol. 2009;26:165-166.
5. Wallace SL, Robinson H, Masi AT, et al. Preliminary criteria for the classification of the acute arthritis of primary gout. Arthritis Rheum. 1977;20:895-900.
6. Richette P, Bardin T. Gout. Lancet. 2010; 375: 318-328.
7. Mittag F, Wuenschel M. Giant gouty tophi of the hand and wrist. Orthopedics. 2011;34:790-792.
8. Yu TF, Gutman AB. Principles of current management of primary gout. American Journal of the Medical Sciences. 1967;254:893-907.
9. Harris ED, Budd RC, Genovese MC, et al. Kelley's textbook of rheumatology. 7th edition. USA: Elsevier Saunders; 2005.
10. Sah SP, Rani S, Mahto R. Fine needle aspiration of gouty tophi: are port of two cases. Acta Cytol. 2002; 46:784-785.
11. Rege J, Shet T, Naik L. Fine needle aspiration of tophi for crystal identification in problematic cases of gout. A report of two cases. Acta Cytol 2000; 44:433-436.
12. Koley S, Salodkar A, Choudhary S, et al. Tophi as first manifestation of gout. Indian J Dermatol Venereol Leprol. 2010; 76:393-396.

■■■

How to cite this article : Niranjan G., Gupta P., Lal N., Musa O., Ahmad S., Zaidi N., Irfan S. An Unusual Presentation Of Gouty Tophi Without Hyperuricemia: A Case Report. Era J. Med. Res. 2019; 6(2): 180-182.