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CHRONIC TOPHACEOUS GOUT PRESENTING AS HUGE TOPHUS WITH NON- HEALING ULCER

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ABSTRACT

Gout is a clinical syndrome caused by an inflammatory response to monosodium crystals formed in human with elevated serum urate concentration. It is the oldest form of arthritis known and most common among crystal arthropathies. Its prevalence is increasing since last 2-3 decades with time poorly controlled gout may progress to polyarticular tophaceous gout which at times may pose a diagnostic challenge. To complicate the matter the tophi can cause pain and dysfunction and are rarely associated with ulcerations.

We report a case that presented with a huge tophus with non healing ulcer on his left foot and was found to have chronic tophaceous deforming gouty arthritis. The patient was put on dietary restriction, proper hydration was maintained and Indomethacin, Methyprednisolone, Feboxostat was instituted. With proper treatment the underlying inflammatory process may be checked and joint damage may be halted or prevented.

Keywords: *Gout, tophus, M.S.U. (Mono sodium Urate) crystal, non healing ulcer, febuxostat.*

INTRODUCTION

Gout is a clinical syndrome caused by an inflammatory response to monosodium crystals formed in human with elevated serum urate concentration. It is the oldest form of arthritis known and most common among crystal arthropathies. Overall prevalence is around 1% around the world. Its prevalence is increasing since last 2-3 decades. Gout is the most common inflammatory arthropathy, reported to affect 2.13% of the population of the United States of America in 2009 [6]. With time poorly controlled gout may progress to polyarticular tophaceous gout which at times may pose a diagnostic challenge. To complicate the matter the tophi can cause pain and dysfunction and are rarely associated with ulcerations [5]. We report a case that presented to our Surgery OPD (Out Patient Department) as a case of huge tophus with non healing ulcer and was found to have chronic tophaceous deforming gouty arthritis.

Case report

A 44 years middle aged man presented to our OPD with large swelling and non healing ulcer in his left foot from last 4 months. There was history of whitish pus like material coming out of the ulcer. The patient was having history of pain and swelling in small joints of hands and foot along with knee and ankle joints from last 8 to 10 years. There was associated early morning stiffness for around 1 hour. These joints symptoms were having episodic history.

According to the patient there was aggravation of joint pain after taking alcohol and non-vegetarian diet. There was no history of fever, weight loss. There was no history of skin rashes, back pain and Raynaud's phenomenon. There was no history of nephrolithiasis. The patient was non-diabetic, non-hypertensive and none of his parents and siblings was having history of diabetes mellitus or hypertension. In the personal history the patient was non-vegetarian, chronic smoker and chronic alcoholic. There was no history of intake of diuretics.

On examination the patient was thin built with poor nutritional status and was having poor hygiene. The patient was afebrile and was having mild pallor. General examination including peripheral pulses was normal. There was large tophus with ulcer on the extensor surface of left foot with white base and clear margins. Whitish pus like material was coming out of the ulcer on left foot. Right big toe was deformed and shortened. Knee joints were also swollen and there were multiple non- tender subcutaneous swelling on the extensor surfaces near MCP (metacarpo phalangial) and PIP (proximal interphalangial) joints. There was generalized atrophy of lower limb muscles with swelling of both knees with fullness of both suprapatellar regions and restricted movements.

Fig.1. Left foot showing large tophi with ulcer and right foot showing deforming first metatarsophalangial joint

Fig. 2. Left foot after healing of ulcer

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Fig. 3. Multiple tophi in right hand with fullness in knee joints

On laboratory workup the patient was anemic with Hb of 9.8 gm%, TLC= 8700/mm^{3,} DLC= P78L22E0M0, ESR= 55mm in Ist hour, CRP=12 U/L, SGOT=28 U/L, SGPT= 30U/L, SAP= 98 IU/L, Blood Urea= 30mg%, Serum Creatinine=0.7 mg%, Serum Uric Acid= 10.2 mg%. Blood sugar fasting and post prandial were both normal. Serum Calcium, phosphorus, Parathormone, thyroid function tests were all normal. Routine urine examination was normal. Rheumatoid Factor (R.F), ANA (Antinuclear antibodies), ANCA (Antineutrophilic cytoplasmic antibodies) were negative. Serology for HIV, Hepatitis B and Hepatitis C was negative. FNAC (Fine Needle Aspiration Cytology) from the ulcer revealed MSU (monosodium urate) crystals with chronic inflammatory cells in the background. was found to have chronic tophaceous deforming gouty arthritis Gram stain and culture of the synovial fluid was negative.

In radiological examinations the foot, knee and hands revealed severe erosive changes, erosions with overhanging margins with severe destruction and deformities. X-ray Chest and Pelvis were normal.

Fig.4. Chalky white synovial fluid aspirated from left knee

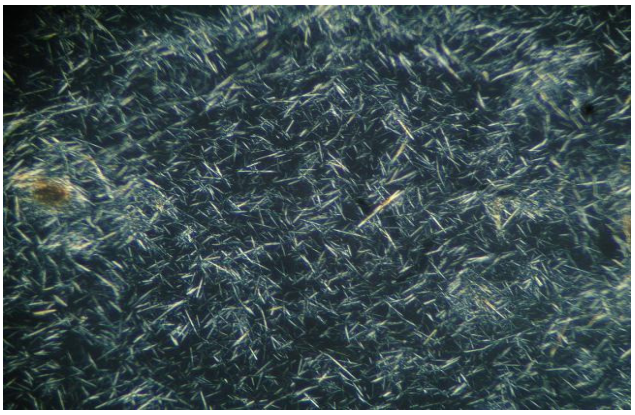

Fig. 5. Microscopy showing full field needle shaped M. S. U. crystals

Fig.6 X-ray of right hand showing multiple erosions with overhanging margins with dislocation of first metacarpophalangial joint

Fig.7 X-ray of right foot showing severe erosions with deformities

The patient was put on dietary restriction, proper hydration was maintained was given Indomethacin 75 mg/day and one shot of depot preparation of methylprednisolone 80 mg was given intramuscular. The patient had a good relief in terms of joint pain, swelling and stiffness. After a period of 7 days the patient was put on tab. Febuxostat initially 40mg/day for Ist 2 weeks and gradually to 120 mg/ day. After a period of 4 weeks the uric acid levels dropped to 6.2 mg%. The patient was maintained on tab. Febuxostat 120 mg/day.

DISCUSSION

The common causes of leg ulceration are vascular disorders such as chronic venous insufficiency (CVI) or atherosclerotic disease of the arteries. It has been reported that ulcers related to venous insufficiency constitute 70%, arterial disease 10% and ulcers of mixed etiology 15% of leg ulcer presentations. The remaining 5% of leg ulcers result from less common pathophysiological causes and this latter group comprise considerable challenges in diagnosis, assessment and management [1]. Cutaneous lesions are common initial features of individuals with rheumatoid arthritis and may include rheumatoid nodules, digital gangrene, palpable purpura, ecchymosis and ischaemic ulcers. Approximately 10% of individuals with rheumatoid arthritis will develop leg ulcers [2]. Rheumatoid leg ulcers may be associated with venous insufficiency, trauma, arterial insufficiency, vasculitis, Felty's syndrome (swollen spleen, decreased white blood cell count and repeated infections) and pyoderma gangrenosum [3]. With time, poorly controlled gout may progress to a chronic phase, characterized by polyarticular attacks, painful symptoms between acute flares and monosodium urate crystal deposition (tophi) in soft tissues or joints [4]. Tophi are typically found on the helix of the ears, on fingers, toes, wrists and knees, on the olecranon bursae, on the Achilles tendons and also rarely on the sclerae, subconjuctivally and on the cardiac valves. They can cause pain and dysfunction and are rarely associated with ulcerations [5]. Tophi are typically not painful or tender. However, a chronic granulomatous inflammatory response is identifiable on histological examination of the lesions, and, on occasion, acute inflammation mimicking that of gouty arthritis occurs in one or several tophi. Gout is the most common inflammatory arthropathy, reported to affect 2.13% of the population of the United States of America in 2009 [6]. The expansile and destructive changes associated with tophaceous gout may be mistaken for osteomyelitis and have sometimes led to amputation of involved digits [7].

CONCLUSION

The gouty arthritis is most common among crystal arthropathies. The prevalence of gout is increasing in recent years [8]. Gout should be considered as a signal to search for the underlying metabolic syndrome, obesity, hypertension, nephropathy and alcohol abuse. Polyarticular involvement although uncommon may be confused with other inflammatory arthritis like rheumatoid arthritis or psoriatic arthritis. Tophaceous ulcer should be screened for infections, malignancy and vacuities. With proper treatment the underlying inflammatory process may be checked and joint damage may be halted or prevented.

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