

Rare Copresent Rheumatoid Arthritis And Tophaceous Gout

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Abstract: Gout is a disorder of purine metabolism characterised by hyperuricemia, deposition of monosodium urate monohydrate crystals in joints and periarticular tissues with recurrent attack of acute synovitis. Rheumatoid arthritis (RA) and gout are relatively common disease, but their coexistence is extremely rare. We report a case of 69yrs old female on presentation likely to have rheumatoid arthritis on evaluation diagnosed to have Polyarticular gout. The coexistence of gout and RA in our patient is unquestionable. She had evidence of seropositive destructive RA, hyperuricemia, acute gout, and MSU crystals. We describe a rare occurrence of concomitant gout and RA in a patient with multiple intradermal tophi.

Keywords: Gout, Rheumatoid arthritis, Tophi.

I. Introduction

Rheumatoid arthritis (RA) and gout are relatively common diseases in rheumatology practice. These two conditions can express with varying severity and may cause significant physical and functional disability. Despite their high prevalence in general population, reported cases of coexistent severe rheumatoid arthritis and gout are scarce. Reasons for this mutual exclusion are not clear, but it is important to consider that differentiating these conditions might be hampered as their presentations can both include polyarthritis, symmetric distribution, morning stiffness and rheumatoid factor [1,2]. We report a new case of a 69 years old patient diagnosed with concomitant severe RA and tophaceous gout.

II. Case Report

69yrs old female presented to our department of rheumatology with a history of a metabolic syndrome and obesity. The patient was on insulin for diabetes mellitus, statin for dyslipidemia, and calcium inhibitors for hypertension. A long standing history of pain and swelling of multiple small and large joints of both shoulders, elbows, hands, feet and knees for approximately 20 years with early morning stiffness and sleeping difficulties were also found. Along with these symptoms, histories of chronic 1st metatarsophalangeal joint swelling and recurrent lumbar pain symptoms were noted. On admission, the patient's blood pressure was 160/90 mm Hg; heart rate 90 beats per minute, body temperature 37°C, and respiratory rate 20 breaths per minute. Physical examination found limited range of motion for both shoulders and bilateral swollen and tender elbows, knees and wrists. Multiple nodules were found, among which some suggesting rheumatoid nodules and others were suggesting tophaceous gout. Laboratory findings were ESR - 56/hr, Serum uric acid - 442 µmol/l, Creatinine - 86 µmol/l, anti-CCP antibodies positive, rheumatoid factor positive. Radiographs of the patient's hands (Figure 1) and feet showed narrowing of joint space and erosions at MCP joint consistent with rheumatoid arthritis, soft tissue nodules (tophi) and extra-articular and intra-articular erosion interesting wrist and carpus. Plain thoracic radiography revealed interstitial lung disease and pulmonary CT-scan confirmed a nonspecific interstitial pneumonia with excavated and non excavated pulmonary nodules suggesting rheumatoid nodules. Ultrasound examination confirmed elbow bursitis. The involvement of more than 3 joint groups, the positivity of anti-CCP antibodies and rheumatoid factor, elevated CRP and ESR, symptoms duration for more than six weeks and radiographic findings were suggestive of rheumatoid arthritis. Furthermore, the presence of a history of 1st metatarsophalangeal joint swelling, recurrent renal colic symptoms, large radiological geodes > 5 mm involving distal radio-ulnar epiphysis and metabolic syndrome with hyperuricemia were suggestive of a gout diagnosis. Analysis of synovial fluid of the knee showed MSU crystals. Methotrexate treatment was avoided as the patient presented pulmonary symptoms and shortness of breath, and a daily 20 mg dose of leflunomide was started along with corticosteroid treatment. A 100 mg daily dose of Allopurinol was also initiated to reduce hyperuricemia and colchicine was used as an acute therapy and as a prophylactic agent with the initiation of allopurinol therapy. Persistent shortness of breath, fatigue, active RA and diffuse joint pain, as well as persistent hyperuricemia prompted increasing allopurinol doses and switching rheumatoid arthritis' treatment to rituximab.



Fig 1: Radiograph of the hands showing narrowing of joint space and erosions at MCP joint consistent with rheumatoid arthritis, soft tissue nodules (tophi) and extra-articular and intra-articular erosion interesting wrist and carpus.

III. Discussion

It has long been believed that gout and RA do not coexist. One suggested explanation is that hyperuricemia has a protective immunosuppressive effect, protecting against or decreasing the expression of rheumatoid inflammation [1]. Another hypothesis suggests that monosodium urate crystals coating by rheumatoid factor, with a combination of genetic, biochemical, and immunological factors, might block Fc receptors adsorbed on crystal surfaces, thus accounting for the apparent dissociation between these two diseases [2]. IL-6, one of the key cytokines in RA, has also shown uricosuric properties and might explain this rare association [3]. Nevertheless, recent studies and case reports suggest that the coexistence of these conditions is possible and might not be as rare as it seems [4-7].

As cited, clinically differentiating RA and gout may be difficult [5]. Corticosteroids and NSAIDs used in RA can also potentially mask the clinical manifestations of gout [5]. Excluding clinical features that are common in either disease, RF, rheumatoid nodules, and radiographic evidence are important discriminators [5].

A study conducted at Chang Gung Memorial Hospital in Taiwan reported eight cases of patients with copresent RA and gout treated between 1994 and 2005, and reviewed 24 similar cases reported in English language journals from 1964 to 2004 as a single case report, among which 66.7% gouty arthritis occurred before RA [5]. A recent retrospective study including 813 RA patients between 1980 and 2007 in Olmsted County, USA found 22 cases of coexistent gout and RA, with six patients having gout prior to RA incidence date. The 25-year cumulative prevalence of gout diagnosed by clinical criteria in patients with RA, in this study, was 5.3% [4].

IV. Conclusion

Tophaceous gout is a rare clinical manifestation that has been observed in patients with a history of chronic gout. Although chronic gout and RA are common clinical entities, copresent RA and gout is rare. The diagnosis and management of copresent patients should not be delayed by the traditional assumption that RA and gout are mutually exclusive. Treating patients with copresent diseases is relatively difficult especially due to comorbidities and metabolic syndrome often associated with gout.

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