

Massive Tophaceous Gout at Right Elbow Region in 55 Years Old Male: A Case Report

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Abstract

Gouty arthritis is one of the most common inflammatory joint diseases, characterized by monosodium urate crystals in or around the joints that comes from purine metabolism. Risk factors of gout are age, excessive intake of purine, alcohol, obesity, lack of physical activity, hypertension and heart disease, certain drugs, and impaired kidney function. This case presented a 55-year-old male patient with lumps and pain in the right elbow. Uric acid laboratory test results with a level of 9.20 mg/dL. Surgical excision could be the only solution to solve minimally decreased range of motion and aesthetic problems. Metabolic problems should be considered a priority with the patients who have unilateral joints problems.

Keywords: Chronic gout, tophaceous, elbow, pseudotumor.

Background

Gouty arthritis is one of the most common inflammatory joint diseases, characterized by monosodium urate crystals in or around the joints. Monosodium urate comes from purine metabolism. The important things that effect of crystals are hyperuricemia and saturation of the body's tissues to the veins. If the uric acid level in the blood continues to increase and exceeds the threshold for tissue saturation, gouty arthritis will manifest in the form of microscopic and macroscopic accumulation of monosodium urate crystals in the form of the tophus. One of the locations for the tophus is the joint gap. Figure 1.

Gouty arthritis is a heterogeneous disease as a result of deposition of monosodium urate crystals in the tissue or supersaturation of uric acid in the

extracellular fluid. From time to time the number of gout sufferers tends to increase. Gout disease can be found throughout the world, in all human races [1, 2, 3]. The prevalence of uric acid tends to a younger age, the productive age which will have an impact on decreasing work productivity [4]. The prevalence of uric acid in Indonesia occurs under 34 years of age by 32% and the highest incidence in the Minahasa population of 29.2%. In 2009, Denpasar, Bali, had a hyperuricemia prevalence of 18.2% [5]. Risk factors that cause people to develop gout are age, excessive intake of purine compounds, excessive alcohol consumption, obesity, lack of physical activity, hypertension and heart disease, certain drugs (especially diuretics), and impaired kidney function [6]. Increased levels of uric acid in the blood, apart from causing gout, according to a study is a

strong predictor of death due to cardiovascular damage [7, 8]. Figure 2.

Two etiologies that cause hyperuricemia are decreased uric acid excretion (90% of patients) or increased uric acid synthesis (10% of patients) [9, 10]. A state of decreased uric acid excretion occurs in patients with kidney disease, heart disease, drug therapy such as diuretics, and decreased kidney function due to age. Meanwhile, the synthetic state of uric acid was increased in patients with genetic predisposition, high-purine diets, and alcohol consumption [11, 12]. This study reports a case of tophus in the right elbow of a 55-year-old male patient with lumps and pain in the right elbow. The patient was suspected of having gouty arthritis from the history and physical examination. Laboratory tests were carried out and showed the results of an increase in uric acid. It is planned to do incision and debridement as management in these patients.

Case Report

A 55-year-old male came to the orthopedic polyclinic at the Denpasar Regional Hospital with complaints of lumps and pain in the right elbow about 6

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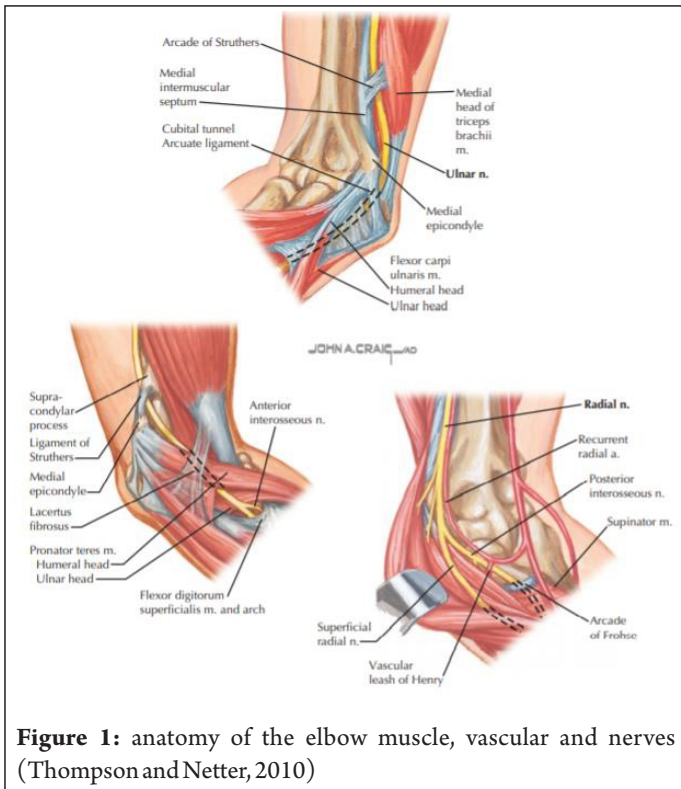


Figure 1: anatomy of the elbow muscle, vascular and nerves (Thompson and Netter, 2010)

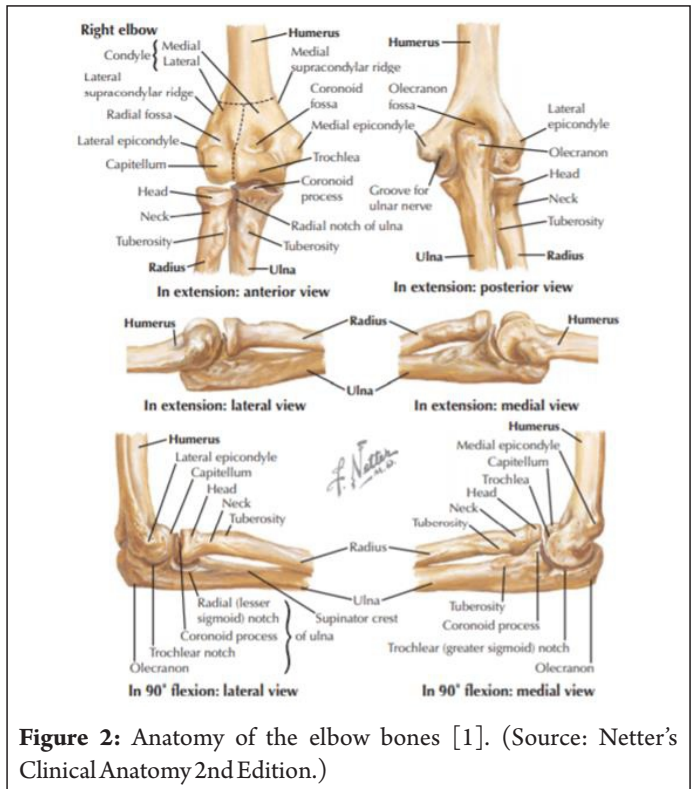


Figure 2: Anatomy of the elbow bones [1]. (Source: Netter's Clinical Anatomy 2nd Edition.)

months ago. Initially, the patient thought the lump was due to an impact. The lump grows slowly over a long period of time. The patient had tried to massage and massage the lump but it did not improve. The patient's medical history has used ointments and warm compresses, but the lump has not improved.

At the initial visit, a physical examination of the right elbow area was performed showing a solid, supple, mobile, painful, skin-colored lump of approximately 10 cm × 5 cm in size. There were no fluctuations and abscesses of pus in the area of the lump. Active range of motion (ROM) in the right elbow is limited by pain. ROM is active on extension at 0° elbow, ROM is active when flexion is 100°. Uric acid laboratory tests are performed to confirm suspicion of gout

arthritis. Uric acid laboratory test results with a level of 9.20 mg/dL (increased, normal 3.0–7.0). With the ASA II patient's physical anesthetic status, the patient is then planned to do excision and debridement with a posterior approach. Figures 3,4,5.

Right elbow pathology findings were as follows:

- Macroscopic: 7 cm × 5 cm × 1.5 cm sized that already sliced. White-browned colored, chewy. In the side of specimen such as hardy-bones
- Microscopic: The surgical preparation consists of a connective tissue stroma with many areas of phosphorus deposits surrounded by osteoclast cells. among them a massive lymphocyte inflammatory cell, several bleeding areas, and dilated blood vessels

- Conclusion: Gout at right elbow region.

Discussion

Gout is a systemic-metabolic disease with various symptoms. Clinic symptoms may appear in patients who had untreated asymptomatic hyperuricemia for a long time. Disease can develop recurring arthritis attacks following asymptomatic intercritical episodes in the end chronic arthritis and tophaceous may develop [5, 12]. Using the patient's history, the finding from physical examination, the laboratory findings, and radiologic features found on plain radiographs, compute tomography, or magnetic resonance imaging (MRI) are all helpful in making the proper diagnosis of chronic



Figure 3: Patient's right elbow clinical appearance.



Figure 4: Clinical findings during operation. Excision and debridement the mass. Before removal and after removal of the mas of the right elbow.



Figure 4: One piece of the specimen about 7 cm × 5 cm and sent for pathologic examination.

tophaceous gout [11]. Figure 6.

Gout may cause bursitis in general, and the olecranon bursa is one of the most affected ones. The olecranon bursa is very commonly involved in tophaceous gout because of the tendency of monosodium urate crystals to deposit in superficial structures with low temperatures [12]. However, bilateral olecranon tophaceous gout is very rare. Chronic gout often causes bony erosions, which lead to debilitating joint damage. Characteristic features of joint damage bony erosions are new bone formation, tophi within tendons, and focal cartilage loss with eventual joint destruction [3]. MRI is not routinely used for the evaluation of tophaceous



Figure 6: Laboratory pathologic result of the specimen after excision.

gout. However, gout may present clinically in an atypical, unusual, or confusing manner. A gouty tophus occasionally mimics an infectious or neoplastic process and MRI must be obtained under these circumstances [8]. But in this case, there were no signs of infection or neoplastic processes and any joint destruction or bone erosions had shown.

In this case, the effects of untreated long-term gout were reduced mobility and aesthetic problems. Tophaceous gout can

be presented at the various joints of the body especially the knee, 1st metatarsophalangeal, and elbow joints. However, unusual presentations may occur. Despite the early recognition and medication, chronic problems could be happening. But in cases, like we present and well established in joints, surgical excision could be the only solution to solve minimally decreased ROM and aesthetic problems [12].

Conclusion

Our case presented tophaceous gout at the right elbow. It is of great importance for the patient to know what the undermined causal of this disease, and what he can expect from a surgical operation. Tophaceous gout may be presented with unusual clinical manifestations. Unilateral tophaceous gout over the olecranon should be considered in differential rare diagnosis of the olecranon bursitis. Metabolic problems should be considered a priority with the patients who have unilateral joints problems.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the Journal. The patient understands that his name and initials will not be published, and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Conflict of Interest: NIL; **Source of Support:** NIL

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