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## Patient of 92 years with gouty arthropathy

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### Introduction

Gout is a metabolic disease characterised by the deposition of monosodium urate crystals in the interior structures of the joints. Its prevalence is approximately 8.4 cases per 1000 individuals and is more frequent in middle-aged and older males<sup>1</sup>.

Although hyperuricemia is a necessary predispositional factor, its presence does not always imply the development of gout. In fact, the majority of hyperuricemic patients never develop gout<sup>2,3,4</sup>. Individual differences in the formation of the crystals or in the inflammatory response, or in both, could play a role in determining if a patient with hyperuricemia will develop gout. Unfortunately, there is not yet a satisfactory explanation for some of the clinical aspects of acute gout, including<sup>5,6,7,8</sup> the precipitation of acute attacks by trauma or surgery, its predilection for the first metatarsal-phalangeal joint, and the spontaneous resolution of the attacks.

The clinical manifestations of gout include recurrent attacks of acute inflammatory arthritis, accumulation of monosodium urate crystals in the form of tophaceous deposits, nephrolithiasis caused by the uric acid and chronic nephropathy. Three classic stages are described in the natural history of the progressive deposition of monosodium urate, which includes acute gouty arthritis, an interval, or intercritical gout, and then chronic tophaceous gout.

Acute gouty arthritis generally occurs some years after a period of asymptomatic hyperuricemia. A typical attack,

which is markedly inflammatory, consists of severe pain, reddening, swelling and functional impairment which reach their maximum intensity after a few hours. In general (80%), the initial attacks only affect a single joint, typically in the lower extremities, often at the base of the big toe (*podagra*), or the knee. The associated signs of inflammation frequently extend beyond the affected joint and at times, can affect a number of joints, with tenosinovitis, dactylitis and even cellulitis also apparent.

Overall, it has been observed that 12-43% of patients with episodes of gout show normal or even reduced values of uric acid in the blood<sup>9,10,11</sup>.



Figure 1. Image in which one can observe the presence of dactylitis as a result of arthropathy gotosa

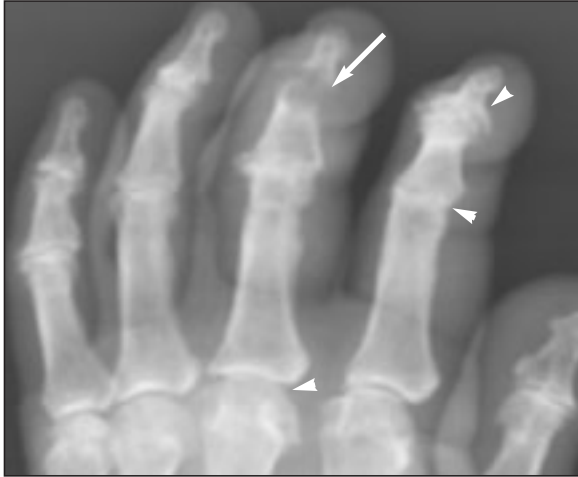


Figure 2.1 X-ray film of the left hand where signs of narrowing of the articular interline (arrow heads), and reabsorption of the third interphalangeal joint (arrow) can be seen



Figure 2.2 X-ray film of the right hand where signs of narrowing of the articular interline (arrow heads), and reabsorption of the third interphalangeal joint (arrow) can be seen

Radiological changes in chronic gout can show reduction in the height of the articular interline and the presence of highly characteristic erosions in the articular margins which are described as lytic lesions in the form of punch hole projecting into the edges of the bone (Martel's signs)<sup>12</sup>. During the first attacks of gout, and often also during the lifetime of the patient, in the radiography of the affected joint only tumefaction of the soft parts are observed.

Next, we present the radiological characteristics shown by a patient of 92 years of age with a history of arterial hypertension, which has developed over at least 5 years, a smoker until approximately 20 years ago, with packet-year index (IPA) of 150, diabetes mellitus type 2 which has developed for 5 years, being treated with oral anti-diabetics, dyslipidemia being treated with statins, chronic renal deficiency with levels of creatine habitually around 1.2-1.4 mg/dL, attributed initially to nephroangiosclerosis and diabetes mellitus, congestive cardiac failure diagnosed in the year 2005 and benign prostatic hyperplasia. The patient attended our service due to progressive dyspnea which had been developing over approximately 8 days until it practically became resting, and pleural effusion with characteristics of empyema was identified, which was treated with thoracic drainage and broad spectrum antibiotics.

The patient had a previous diagnosis of arthritis, troubling diffuse pain in multiple joints of several year's evolution. What also stood out was the *sausage-shaped* swelling (*dactylitis*) (Figure 1), especially in the third finger of the hand, and gouty tophi on the toes. On the third day of admission the patient described her pain: in the

right knee, in the big toe of the left foot, and in both hands accompanied by tumefaction, erythematous coloration in the affected zones, and fever (despite the broad spectrum antibiotic given for her empyema). The analysis carried out at that time revealed levels of uric acid of 12.8 mg/dL, along with a real elevation in acute phase reactants (leukocytes: 15,000/mm<sup>3</sup> with 88% of neutrophils, platelets: 1,096,000/mm<sup>3</sup>; VSG 105 mm/h; fibrogen: 842 mg/dL; albumin: 2.5g/dL; PCR 330.8 mg/L. Treatment was started with colchicin (1 mg every 4 hours) and her symptoms gave way in 24 hours, the patient showing a good tolerance to the drug, with no secondary effects.

On the X-rays a reduction in the articular interline could be observed, resorption of the third distal phalanx in both hands, an increase in the soft tissues and lytic lesions, suggestive of gouty arthropathy (Figures 2.1 and 2.2).

In this case the attack of gout appeared in the context of a minor surgical procedure<sup>12</sup>, which is what a thoracic drainage is, and evolved satisfactorily, as is usual, 24 horas after starting treatment with colchicin.

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