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Hip or Wrist Can Also Be the First Locations of a Gout

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Introduction: The first metatarsophalangeal is the first classic location of gout. The coxofemoral joint is rarely affected except in very advanced gout. We report the case of a patient who revealed gout due to febrile oligoarthritic of the hip and wrist.

Observation: 44-year-old patient, market gardener admitted for acute oligoarthritis involving the left hip and the right wrist evolving for 3 weeks. He did not report any history of pain in the first metatarsophalangeal joint. The physical examination noted a peripheral joint syndrome: with 02 painful joints (left hip, right wrist) and a swollen joint (right wrist). Ultrasound with puncture of the ultrasound-guided left hip brought back 20cc of whitish liquid with a chalky appearance, which direct examination under an optical microscope showed the presence of numerous tapered microcrystals with pointed ends. CRP was 55.53 mg/l. serum uric acid was 1505umol/L. Serum creatinine was 428 micromole/L with a GFR = 16.96 ml/min. The cytobacteriological study of the joint fluid noted leukocytes: 21500/mm3 with 98% neutrophils and the presence of sodium urate crystals. There were no germs. X-rays of the pelvis in front and of the left hip in profile were without abnormality. Ultrasound of the left hip and the metatarsophalangeal of the big toe: objectified a double contour image at the level of the said joints. Treatment with Colchicine 0.5mg every 12 hours has been proposed, combined with Tramadol 100mg every 12 hours, enoxaparin: 0.4mg/24h. The clinical evolution was favorable.

Conclusion: the first metatarsophalangeal is the classic location of an acute gout attack. Exceptionally, gout can be revealed by oligoarthritis of the hip and wrist. Direct examination and ultrasound are of great help in these atypical locations.

Keywords: Gout; hip; wrist; ultrasound; Burkina Faso

Introduction

Gout is the most common chronic inflammatory rheumatism. It is a microcrystalline arthropathy characterized by the deposition of monosodium urate (MSU) crystals in the joints and surrounding soft tissues. The reported prevalence of gout worldwide ranges from 0.1% to about 10%, and the incidence from 0.3 to 6 cases per 1000 person-years [1]. The far element will allow the formal diagnosis of gout is the identification of monosodium urate crystals in synovial fluid analysis [2]. In recent years, ultrasonography (US) has proven to be a fast, safe and accurate imaging technique for the detection of MSU crystal deposits (in double contour, snowstorm or tophi form) and inflammatory and structural changes in joints and tendons (synovitis, erosions) [3,4]. The ultrasound "double contour" sign has been included in the latest classification criteria for gout from the American College of Rheumatology (ACR)/ European League Against Rheumatism (EULAR) [5]. Gout primarily affects peripheral joints of the lower extremities, particularly the

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first metatarsophalangeal (MTP) joint, the ankle and the knee [6].Gout was reported to affect the hip as early as 1963 [7].Since then, approximately 12 clinical cases have been reported in the literature [8-19].The prevalence of ultrasound involvement of the hip in patients with gout is estimated at 15% for the presence of the double contour and 15% for the presence of tophi [20]. of the hip usually occurs in the context of polyarticular and also chronic involvement. We present a case of inaugural left coxitis and wrist pain of tophaceous gout.

Observation

A 44-year-old male market gardener, heavy eater of red meat and consumer of all kinds of alcohol was admitted for inflammatory and debilitating pain in the left hip that had been evolving for 3 weeks. There was recent discovery of arterial hypertension in his history. He reported mechanical pain in the hip that had been evolving for a year, yielding to rest. He would never have presented before, an inflammatory pain of the big toe, nor of other joints. General signs were present such as hyperthermia and deterioration of general condition. The physical examination noted pain in the left hip with flexion and painful limitation of movement and the wrist was slightly painful and swollen. There was no tophus visualized on clinical examination. Ultrasound exploration noted synovitis and abundant coxofemoral effusion, a double contour image at the level of the femoral head, a snowstorm image and a heterogeneous formation suggestive of intra-articular tophus (Figure 1 A, B, C). The ultrasound-guided puncture brought back 15 ml of thick whitish chalky liquid (chalky mud) (Figure 2). The complete blood count noted hyperleukocytosis at 10,550/mm3 with neutrophil predominance (98%). C-reactive protein (CRP) was 55.53 mg/l. Serum uric acid was elevated at 1505 umol/L with a glomerular filtration rate (GFR) of 16.96ml/minute. Joint fluid analysis noted monosodium urate crystals (Figure 3) with no germ identified. The pelvic radiograph was normal. The dual energy scanner was not performed. The diagnosis of inaugural left coxitis due to tophaceous gout was retained. The evolution was favorable with colchicine and febuxostat associated with nephrological management.

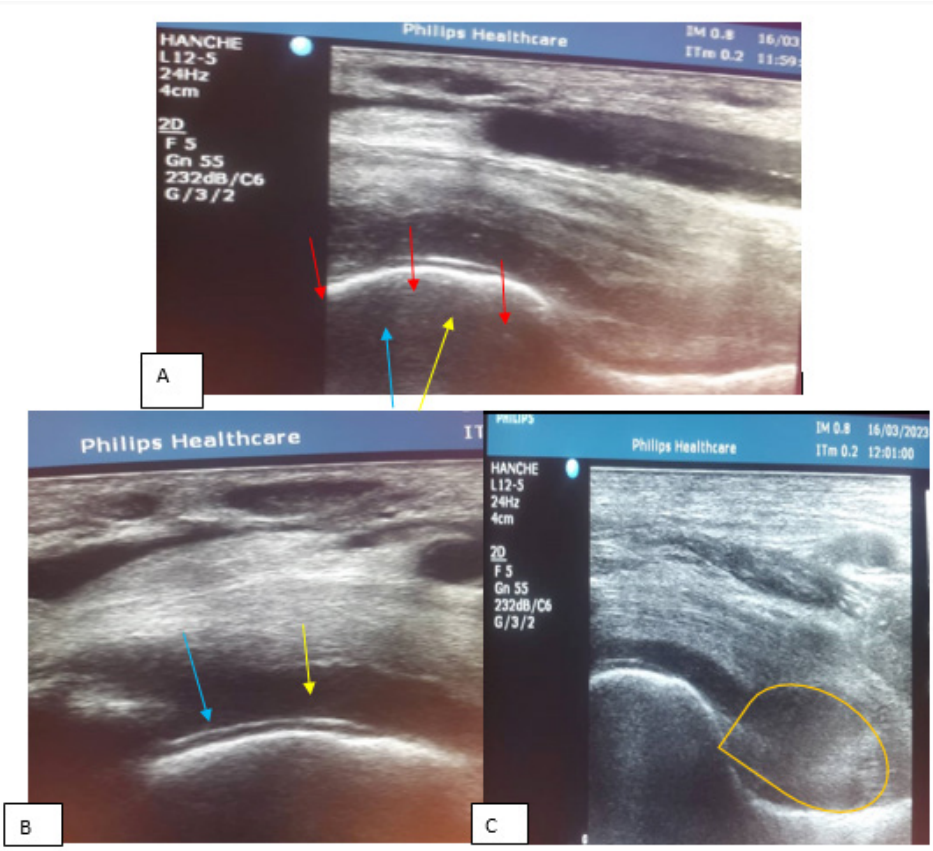

Figure 1. A: ultrasound of the left hip: longitudinal section of the hip joint visualizing the femoral head and neck: we can note the presence of a double contour at the level of the femoral head (blue arrow), a effusion of medium abundance with hyperechoic spots in the form of a snowstorm image (red arrow).

Figure 1.B: axial section of the femoral head still visualizing the double contour (blue arrow) and the effusion (yellow arrow).

Figure 1.C: we can note an oblong, heterogeneous formation that may correspond to a tophus (orange circle).

Figure 2: ultrasound-guided puncture of the left hip: note the whitish appearance of the thick and difficult to aspirate liquid.

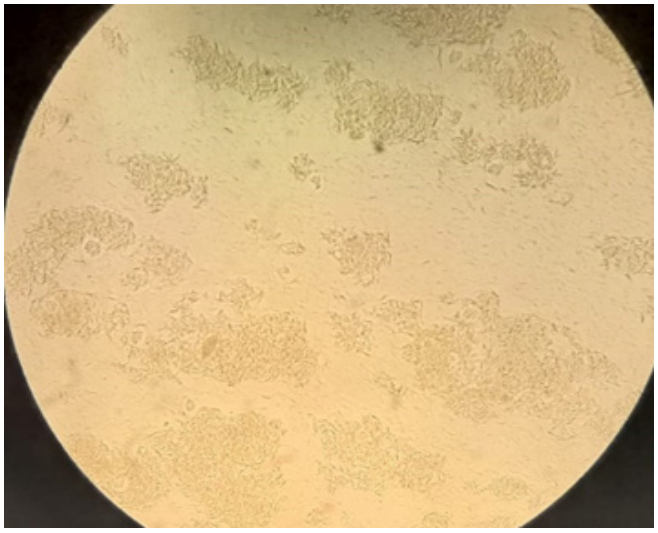

Figure 3: optical microscope examination of the whitish liquid: note the presence of pointed mud crystals grouped in clusters.

Discussion

Gout generally begins with acute peripheral mono-articular or oligo-articular attacks. Acute episodes of gout are typically mono-articular or oligo-articular [21]. In the chronic phase of the disease, the attack can become polyarticular. Tophi develop more often in chronic gout, but they may be the first sign of the disease [21]. In the past the identification of monosodium urate crystals in the puncture fluid was the mainstay of the diagnosis of gout, however nowadays ultrasound and dual energy computed tomography can identify monosodium urate crystals [3, 4]. In our case, the patient consulted for inflammatory pain in the left hip of acute evolution with hyperuricemia, with a history of mechanical hip pain evolving for one year. Inaugural gouty involvement of the hip is rare, but to our knowledge has been described in 12 cases [8-19]. As described in the literature, it generally occurs in chronic tophaceous gout, our patient had no visible tophus on clinical examination and the hip inflammation appeared to be acute. The diagnosis was initially made by ultrasound: identifying a double contour image at the level of the femoral head, a snowstorm image and a heterogeneous formation at the level of the femoral neck corresponding to a tophus and also an intra-articular effusion. In recent years ultrasound has proven to be a useful tool for the diagnosis of gout [3,4]. The latest ACR/EULAR criteria include the ultrasound sign of double contour [5]. The puncture of the hip by ultrasound guidance brought back a thick whitish chalky liquid of about 15 ml, of which the micro bacteriological analysis revealed crystals of monosodium urates. The first cases (3) of gouty coxitis described were cases that occurred following hip arthroplasty for a different pathology in patients with a history of gout [8,9,13]. Three other cases of coxitis described were initially considered respectively as septic arthritis,

chondromatosis and aseptic osteonecrosis [17-19]. The diagnosis was suspected intraoperatively, and analysis of the sample confirmed the diagnosis. Four other cases have been described but occurring in the context of polyarticular and chronic involvement with or without a history of gout [10,12,15,16]. The first case of previously non-pathological hip monoarthritis inaugurating gout was first described in 1993. It was a 4–6-year-old man who consulted for hip monoarthritis evolving for 2 days mimicking arthritis septic, without pathological antecedent. Analysis of joint puncture fluid identified monosodium urate crystals confirming the diagnosis [11]. The second case was the first case where ultrasound had contributed to the diagnosis of gouty coxitis [13]. In this case, it made it possible to objectify a very abundant coxofemoral effusion, and the analysis of the liquid had identified crystals of monosodium urates [13]. In 2016, another case of gouty coxitis was described occurring in the context of polyarticular involvement [15]. In this case, ultrasound contributed to the diagnosis by showing the double contour sign [15]. Our case seems to be the 3rd case of inaugural hip monoarthritis from tophaceous gout and the first case where ultrasound contributed to the diagnosis with the double contour sign, joint effusion, snowstorm image. and intra-articular tophi. In the same way it served for the guidance of the articular puncture bringing back the chalky mud. The chalky liquid corresponds to the aggregates of intra-articular monosodium urate crystals. In the clinical cases of hip arthritis described, one case of chalky liquid was described after CT sampling and one case seen intraoperatively [16,19]. Our clinical case reminds us again that in the face of hip arthritis, we must think of gouty coxitis whether in a polyarticular or monoarticular context, even in the absence of a history of gout. In our case, ultrasound was of great help for the diagnosis. As a result, the use of ultrasound, an accessible tool, must be essential in the event of suspected hip coxitis. It is also necessary for the guidance of the articular puncture [22,23].

Conclusion

Gouty coxitis is rare and is known in the context of polyarticular and chronic gout. However, some rare cases of inaugural coxitis of gout have been described. Since the hip is a deep joint, we must use ultrasound to find effusions, double contours, snowflake images or tophus. It is also necessary for guiding the puncture.

Conflicts of Interest

None.

Acknowledgment

None.

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