



A Young Man with Joints Effusion without Trauma: It is a Rheumatic Disease

Cinzia Casu^{1*}, Francesco Benazzo², Eleonora Bruschi¹, Franco Combi² and Oscar Massimiliano Epis¹

¹S.C. Reumatologia ASST Grande Ospedale Metropolitano Niguarda, Milano, Italy

²Internazionale F.C., Milano, Italy

*Corresponding author: Cinzia Casu, S.C. Reumatologia ASST Grande Ospedale Metropolitano Niguarda, Piazza Ospedale Maggiore, 3, 20162 Milano, Italy, E-mail: ci.casu@tiscali.it

Abstract

The problem of swollen joints in athletes represents a typical risk following a sports injury, but this is not the only cause, although it is the most frequent one. Indeed inflammatory arthritis may also be a source of joint effusion. We report the case of a 21-year-old professional football player who suffered from pain and swelling in his joints after a mild sprain. He first underwent arthroscopy, followed by intra-articular steroid injections at a later stage. Despite that, his joints swelled again over the next few weeks. The patient was diagnosed as suffering from reactive arthritis (ReA) and treated with a conventional treatment. As the synovitis still persisted, he was finally treated with Etanercept (50 mg s.c. weekly) which resulted in a complete and quick resolution of arthritis, allowing the patient to return to his previous level of performance.

left ankle, low dorsal and upper lumbar spine and in the sacroiliac joints. These findings were compatible with acute inflammation disease. The ultrasound of the left knee and the left ankle revealed joint effusion, synovial thickness with Power Doppler (PD) positivity and tenosynovitis of the posterior tibialis tendon with PD positivity.

The patient was diagnosed as suffering from reactive arthritis (ReA) and so started on oral treatment with 10 day course of antibiotic therapy and methotrexate 10 mg weekly (maximum tolerated dose), folic acid 5 mg weekly, prednisone 10 mg daily.

After 3 months of treatment the joints involved had improved, however there was still persistent disease activity. More specifically, the ultrasound of the knee showed persistent joint effusion and synovial thickness with PD positivity. A left knee aspiration was performed and 50 cc of clear, yellow synovial fluid was extracted; the knee was subsequently injected with corticosteroid.

Because of the severity and resistance of the disease to conventional treatment methods, Etanercept (50 mg s.c. weekly) therapy was started and resulted in a remarkable improvement. After 1 month of therapy the patient was asymptomatic and he was able to resume training. He gradually yet quickly returned to his previous level of performance. A further ultrasound showed the complete absence of knee and ankle effusions and negative PD signals, allowing the suspension of steroid therapy within 5 months from the beginning of Etanercept.

Discussion

With athletes the problem of swelling joints is a typical risk following a sports injury, but this is not the only cause, despite it is the most frequent. Indeed inflammatory arthritis may also be source of joint effusion.

ReA, also known as Reiter syndrome, is classified as a type of seronegative spondyloarthritis with ankylosing spondylitis (AS), psoriatic arthritis (PsA), arthritis associated with inflammatory bowel disease and undifferentiated arthritis, and shares some clinical features with these complaints [1]. ReA can be defined as the development of sterile inflammatory arthritis as a consequence of remote infection, often in the gastrointestinal or urogenital tract

Introduction

Episodes of arthritis in young athletes may not be recognized and be initially evaluated as joint swellings resulting from trauma. This case report reminds us to consider the possibility of a rheumatic disease even in a young athlete, in this case a reactive arthritis.

Case Report

The patient was a 21-year-old professional football player who first suffered from pain and swelling in his left knee and then in his left ankle too after a mild sprain. He underwent arthroscopy of his left ankle joint injury, receiving later intra-articular ankle and knee steroid injections. Despite this, over the next few weeks, his knee and ankle swelled again, causing him to consult a rheumatologist who noted that the player had developed joint symptoms 1 month after symptomatic urethritis and had a history of oral aphthosis and low back pain. Laboratory analysis, urethral cultures and technetium (^{99m}Tc) bone scan were prescribed and treatment with non-steroidal anti-inflammatory drugs was started.

The laboratory analysis revealed that his C-reactive protein level was 2.5 mg/L (normal range 0.0-0.5 mg/L) and had a negative rheumatoid factor, negative anti-CCP antibodies and positive HLA B27 status. The urethral culture was positive for Chlamydia. The bone scan showed an increased uptake of radiotracer on the left knee,

[2]. The musculoskeletal features consist of arthritis, enthesitis, tendinitis and bursitis. The arthritis is typically asymmetrical oligoarthritis, often in large joints of the lower extremities [3]. The presence of HLA-B27 is associated with a more severe arthritis and points to a chronic disease. The treatment consists of non steroidal anti-inflammatory drugs, often in high doses and intra-articular glucocorticoid injections for arthritis and enthesitis. Patients who have an inadequate response are treated with disease modifying anti-rheumatic drugs (DMARDs). Antibiotics are used to treat a documented acute infection; furthermore there is some evidence indicating that if antibiotic treatment is started early enough during the infectious phase, it may prevent the development of recurrent ReA [2].

There are no major or controlled studies concerning the use of biologic therapy in the treatment of ReA, although tumor necrosis factor (TNF)-blocking agents have had certain success in the treatment of patients with active AS, PsA and chronic undifferentiated spondyloarthritis and who have not responded well to conventional therapies [4-6]. Given the high stress that professional sports exert on athletes' joints and the need to return quickly to full competitive level, players with ReA may require early and aggressive management employing modern pharmacotherapy. The use of Etanercept in our patient resulted in a rapid improvement in the symptoms, leading not only to a solution to his recurrent and recalcitrant knee and ankle effusion, but also allowing him to resume physical activity 1 month after starting anti TNF-alpha therapy, followed by a full return to competitive activity 3 months later. Moreover, this case report suggests that joint effusion in a player is not always the result of a trauma or an injury caused by overuse/wear: ReA should be taken

into account during the differential diagnosis stage, especially when the joint effusion is recalcitrant and difficult to treat. Furthermore, this case shows how anti TNF-alpha therapy can be successful in treating ReA when other standard treatments have failed, suggesting the significant role of TNF-alpha in the pathogenesis of ReA.

Ethical Standards

The patient provider his consent to the publication of this report.

References

1. Dougados M, van der Linden S, Juhlin R, Huitfeldt B, Amor B, et al. (1991) The European Spondylarthropathy Study Group preliminary criteria for the classification of spondylarthropathy. *Arthritis Rheum* 34: 1218-1227.
2. Hannu T (2011) Reactive arthritis. *Best Pract Res Clin Rheumatol* 25: 347-357.
3. Braun J, Kingsley G, van der Heijde D, Sieper J (2000) On the difficulties of establishing a consensus on the definition of and diagnostic investigations for reactive arthritis. Results and discussion of a questionnaire prepared for the 4th International Workshop on Reactive Arthritis, Berlin, Germany, July 3-6, 1999. *J Rheumatol* 27: 2185-2192.
4. Chaudhari U, Romano P, Mulcahy LD, Dooley LT, Baker DG, et al. (2001) Efficacy and safety of infliximab monotherapy for plaque-type psoriasis: a randomised trial. *Lancet* 357: 1842-1847.
5. Brandt J, Haibel H, Reddig J, Sieper J, Braun J (2002) Successful short term treatment of severe undifferentiated spondylarthropathy with the anti-tumor necrosis factor-alpha monoclonal antibody infliximab. *J Rheumatol* 29: 118-122.
6. van der Heijde D, Han C, DeVlam K, Burmester G, van den Bosch F, et al. (2006) Infliximab improves productivity and reduces workday loss in patients with ankylosing spondylitis: results from a randomized, placebo-controlled trial. *Arthritis Rheum* 55: 569-574.