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Successful therapy with low-dose colchicine in intermittent hydrarthrosis

SIR, Intermittent hydrarthrosis (IH) is a very uncommon condition characterized by episodic attacks of synovitis, usually in the large joints and most commonly the knees [1, 2]. The features which distinguish it from other periodic syndromes, such as palindromic rheumatism, are the predictable periodicity of the attacks, with one or two episodes per month, and the normality of laboratory tests during the attacks [2]. No successful treatment for preventing or aborting the attacks has been documented [2]. Here we report two cases of IH which responded favourably to low doses of colchicine.

Case 1 was a 43-yr-old woman who presented to our rheumatology unit because of relapsing knee swelling. Her medical and family history was unremarkable and the patient denied intestinal, cutaneous or ocular disease. The episodes of knee swelling had begun 2 yr before the admission, and she did not refer to trauma or urogenital, enteric or throat infections as triggering events. Since then, she has presented with painless effusions of her right knee, complaining sometimes of popliteal fossa discomfort, and only on two or three occasions of swelling affecting the left knee. The episodes lasted 2–3 days with restitutio ad integrum after the events, and recurred with a periodicity of exactly 15 days. She remained well between episodes and physical examination of other appendicular and axial joints was repeatedly normal. During this 2-yr period, arthrocentesis of her right knee had been performed on several occasions, yielding synovial fluids indicative of mild inflammation (2500–5000 leucocytes/μl with 50–60% neutrophils), without crystals on polarized light microscopy or organisms in cultures. Other results, obtained on several occasions, were unremarkable; these included erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), rheumatoid factor (RF) and antinuclear antibodies (ANA). Radiographs of the thorax, knees and sacroiliac joints were normal. Treatment with several non-steroidal anti-inflammatory drugs and intra-articular injections of depot glucocorticoids did not prevent the recurrence of attacks.

On the basis of the data given above, the patient was diagnosed as having IH. She was given therapy with 1 mg/day of colchicine for 3 months, and then changed to 1 mg colchicine on alternate days. However, 15 days thereafter her knee swelling reappeared and daily colchicine was restarted. Once again, she remained well for an additional 3 months, and the dose of colchicine was then lowered to 0.5 mg daily for 2 months. Finally, this dose was changed to an alternate-day dosing scheme. After a follow-up period of 2 yr with this last scheme of therapy, the patient has remained symptom-free and data suggesting another rheumatic condition have not yet emerged.

Case 2 was a 45-yr-old woman who was referred to our unit because of left knee synovitis. Data regarding her medical and family history were unremarkable, and cutaneous, intestinal, ocular and urogenital diseases were absent. Her synovitis had begun 5 yr previously, when she suffered a moderate traumatism affecting her left knee. Meniscal or ligament injuries had been excluded by means of magnetic resonance imaging. After this initial episode, she developed recurrent episodes of left knee swelling with a periodicity of exactly 15 days. These attacks were always painless and provoked only mild discomfort during the event. After 2–3 days, the effusions disappeared rapidly. Laboratory tests, including ESR, CRP, RF and ANA, were always normal. Analyses of synovial fluid revealed only mild inflammation and ruled out infection and crystal diseases. Radiographs of the thorax, knees and sacroiliac joint yielded no significant results. A diagnosis of IH was made; she started therapy with 1500 mg nabumetone daily and low doses of prednisone but her clinical picture remained unchanged. A course of colchicine therapy was then given at 1 mg/day for 3 months, and treatment was then changed to an alternate-day scheme. She has been followed for 3 yr, and though she is not completely symptom-free her attacks have almost disappeared, with two or three additional episodes of lesser intensity than the initial ones.

IH is a periodic rheumatism which is rarely seen in clinical practice [1, 2]. As it is a mild, non-aggressive disease and many clinicians are unaware of its existence, it is difficult to know the real frequency of this conspicuous entity. However, the general opinion is that it is a very uncommon disease [2]. Although IH has been related to calcium pyrophosphate deposits and a role for synovial mast cells has also been invoked, to date its aetiopathogenesis remains unknown [3, 4].

This condition is typified by episodes of swelling which normally affect one knee at a time, although both knees may be affected simultaneously. It usually begins in adolescence but can present up to the fifth decade [1, 2]. Our two cases are remarkable because both began later than the normally expected age. The two features which distinguish IH from other periodic rheumatism are the exact, predictable recurrence of the episodes and the normality of laboratory tests during the attacks. The overall prognosis is good and radiographs show no evidence of bony erosions or cartilage loss over time [1, 2]. Except in rare cases [3], no crystals have been documented in samples of synovial fluid from these patients [2]. Typical attacks are painless, though some patients may complain of joint discomfort and functional impairment due to the great amount of synovial effusion which may accumulate in some circumstances. Most cases of IH have been documented in women, associated with the menses, although this is not always the case, as we report here [1, 2]. Synovial fluid is frequently non-inflammatory; however, a modest inflammatory reaction is not rare, the synovial histology showing villous proliferation with no or slight inflammatory cell infiltration [1, 2].

No effective treatment has been documented for IH, but there have been cases that have responded well to several therapies, such as intra-articular corticosteroids, intra-articular rifampin and gold radiosynovectomy [2, 5, 6]. We report here that low doses of colchicine may be a good option in the treatment of IH. We chose this drug to treat our patients because it has proven effective in the treatment of other periodic syndromes and because it may exert several anti-inflammatory effects on neutrophil leucocyte populations [7]. After a minimum of 2 yr of follow-up, colchicine showed good ability to prevent attacks of knee effusion in our patients. Neither of them has developed adverse reactions and the overall tolerance of the drug has been remarkably good.

On the basis of present observations, and considering the good benefit/risk profile of low-dose colchicine, we support this option as a potential treatment for preventing episodes of IH. Another plausible option is to explain the benign nature of the syndrome to the patient and suggest to them that drug treatment is not necessary.

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