## Erosive arthritis in juvenile onset Crohn's disease

Sirs,

In Crohn's disease arthropathy, evolution to chronicity with radiographic erosive lesions has been rarely reported (1, 2).

We recently encountered the case of a 22-year-old man who presented in September 1992 (at 15 years of age) with arthritis of the left ankle, followed by the involvement of the wrists and elbows. An initial diagnosis of juvenile chronic arthritis was made and the symptoms were improved by NSAIDs. In May 1993, he was admitted to the Emergency Department for appendicitis. The surgeon found a magma involving the terminal ileum and caecum and did a partial resection of the gut. Histology revealed evocative features of Crohn's disease. The patient began to complain of chronic diarrhoea without blood which were improved by mesalazine treatment. The patient presented in September 1999 with arthritis of the left ankle, the wrists, the elbows and inflammatory buttock pain. Clinical examination disclosed synovitis of the right wrist, left elbow and right ankle. The hips and lumbar spine were free of involvement, with a Schöber of 6 cm.

Laboratory analyses showed: ESR 60 mm/1st hr, hemoglobin 8.1 g/dl, mean cell volume 57 $\mu^3$, rheumatoid factor negative by the latex and Waaler-Rose tests, as were antinuclear antibodies. HLA-B27 was absent. X-rays showed bilateral sacroiliitis stage 3, narrowing of the left coxofemoral joint, and erosive arthritis of the left elbow (Fig. 1).

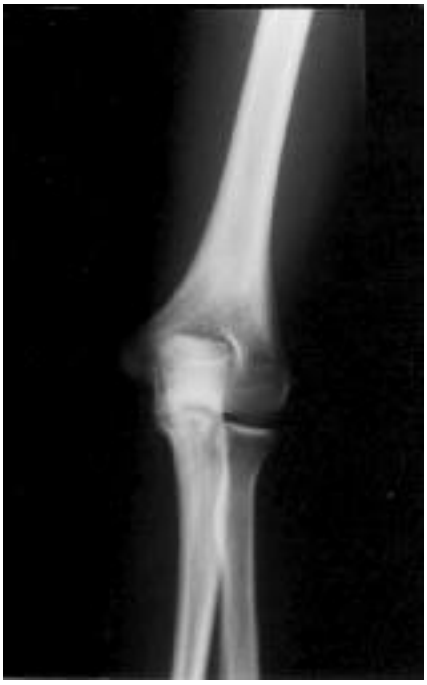

**Fig. 1.** X-ray of the left elbow showing narrowing of the joint space with erosive lesions.

Colonoscopy revealed inflammation and ulceration from the hepatic flexure to the left colon consistent with Crohn's colitis. Biopsies revealed acute and chronic inflammatory changes and confirmed the diagnosis of Crohn's disease. The patient improved symptomatically with indomethacin and sulfasalazine.

From the early description of the association of peripheral arthritis and sacroiliitis with ulcerative colitis and Crohn's disease, the idea emerged that inflammatory bowel diseases (IBD) might belong to the spondyloarthropathy concept. Arthropathy is the commonest extra-intestinal manifestation of Crohn's disease (3-9). The most common presentation is a benign, peripheral, seronegative arthritis which occurs in 3-23% of patients with Crohn's disease (2). It is characterized by migratory and at times symmetric polyarthritis affecting primarily the large joints of the legs. Control of the intestinal disease will frequently result in amelioration of the arthropathy. Histopathologic examination of involved synovium usually shows nonspecific inflammation which is thought to be mediated by immune complex deposits. However, cases of granulomatous erosive arthritis have been reported (3-5). AS, clinically indistinguishable from the idiopathic form, is observed in 5-8% of cases. In up to 75% of this subgroup of patients HLA B27 antigen is present. Isolated and bilaterally symmetric sacroiliitis is seen in 11-19% of Crohn's disease patients; this form, which is not associated with the antigen HLA B 27, usually presents with peripheral arthritis. Our patient can be classified in this category. Elbow involvement has been reported only in one observation in a 49-year-old woman who presented a chronic polyarthritis resembling rheumatoid arthritis (7). Many predictive factors of erosive arthritis can be advanced from the literature: juvenile onset, the presence of spondyloarthropathy and severe intestinal involvement. Our patient had all of these factors. Treatment is based essentially on sulfasalazine, which is effective against the intestinal and articular lesions. Synoviortheses of the involved joint can stop the erosive process if it is carried out early.

A. EL MAGHRAOUI, *MD*
A. AOURAGH, *MD*
M. HACHIM, *MD*
F. TOLOUNE, *MD*
V. OHAYON, *MD*
M.I. ARCHANE, *MD*

*Internal Medicine Department, Military Hospital Mohamed V, Rabat, Morocco.*

*Please address correspondece and reprint requests to: Dr. A. El Maghraoui, Internal Medicine Department, Military Hospital Mohamed V, Rabat, Morocco.*
*e-mail: a_elmaghraoui@hotmail.com*

**References**

1. NORTON KI, EICHENFIELD AH, ROSH JR, STERN MT, HERMANN G: Atypical arthropathy associated with Crohn's disease. *Am J Gastroenterol* 1993; 88: 948-52.
2. WEINER SR, CLARKE J, TAGGART NA, *et al.*: Rheumatic manifestations of inflammatory bowel disease. *Semin Arthritis Rheum* 1991; 20: 353-66.
3. AL-HADIDI S, KHATIB G, CHHATWAL P, KHATIB R: Granulomatous arthritis in Crohn's disease. *Arthritis Rheum* 1984; 27: 1061-2.
4. TOUBERT A, DOUGADOS M, AMOR B: Erosive granulomatous arthritis in Crohn's disease. *Arthritis Rheum* 1985; 28: 958-9.
5. LINOSTROM C, WRAMSBY H, OSTBERG G: Granulomatous arthritis in Crohn's disease. *Gut* 1972;13: 254-9.
6. DESHAYES P, LE LOËT X, MEJJAD O, DARAGON A, POTTIER S: Arthropathies érosives au cours de la maladie de Crohn. A propos de trois observations. *Rev Rhum* 1993, 60: 625-7.
7. TOUSSIROT E, DARMON P, REVIRON D, MERCIER P, ACQUAVIVA PC: Erosive polyarthritis in Crohn's disease. *Clin Exp Rheumatol* 1995; 13: 255-7.
8. TOMILSON IW, JAYSON MIV: Erosive Crohn's arthritis. Case report. *J R Soc Med* 1981; 74: 540-2.
9. BEAUVAIS C, LE QUINTREC JL, PRIER A, FLIPO RM, KAHN MF, KAPLAN G: Coxites destructrices de la maladie de Crohn. Dix observations. *Presse Med* 1995; 24: 1555-8.

## Microscopic perineuritis. An unexpected finding of post-herpetic neuralgia in a temporal artery biopsy

Sirs,

Post-herpetic neuralgia (PHN) is defined by pain persisting more than 3 months after the end of the acute period (1, 2). Nearly all patients have pain in association with acute herpes zoster, and 10-70% have PHN, which can develop after a pain-free interval (1). Perineuritis is a histopathologic finding characterized by inflammatory cell collection around peripheral nerves. This entity has been observed in nerves infected by herpes virus, both simplex or zoster (3,4), and has also been described in some patients with PHN (5).

We report the case of a patient with ophthalmic PHN, in whom a temporal artery biopsy was performed, and a perineuritic lesion near the temporal artery was found. To our knowledge no other cases of perineuritis in a temporal artery sample from a patient with PHN

and healed cutaneous herpes zoster have been communicated.

A 71-year-old woman was admitted because of malaise, weakness and exertional dyspnea for the past 3 months. Her medical history included hypothyroidism due to autoimmune thyroiditis, mild hypertension, dyslipemia and myocardial infarction 2 years before. Three months before admission she suffered a left ophthalmic herpes zoster infection which affected the left frontal and temporal skin territories. No ocular involvement was noted. Although the cutaneous lesions healed in 2 weeks, post-herpetic neuralgia remained and was treated with carbamazepine with improvement. Her physical examination was unremarkable except for an intense pallor. No overt signs of cardiac failure were present. No skin lesions were found. Hematologic laboratory values disclosed hemoglobin 91 gr/L, hematocrit 28%, MCV 95 fL, and a reticulocyte count of 59 x $10^9$/L. Blood chemistry determinations revealed an ESR of 124 mm and creatinine 2.4 mg/dL. A chest x-ray showed only slight cardiomegaly. Serological tests for syphilis were negative. Thyroid function was normal as were folic acid, B12 vitamin, ferritin and erythropoietin levels. A bone marrow aspirate demonstrated anemia of chronic disease. Because there was no clear cause of the constitutional symptoms and elevated acute phase reactants, and despite the normal appearance of her temporal arteries, she underwent a left temporal artery biopsy and a mild mononuclear inflammatory reaction around the nerve close to the normal artery was observed (Fig. 1). No vasculitis was found, and the patient declined additional diagnostic procedures. Because of the appearance of proximal myalgia suggesting polymyalgia, prednisone 20 mg/day was started and subsequently tapered with good recovery.

Worrell *et al*. studied the histopathologic changes in 48 dermal nerves involved by herpesvirus infection, both simplex and zoster, and all cases showed perineural inflammation consisting of a dense mixed neutrophilic and predominantly lymphocytic infiltrate (3). Virtually half of the cases presented intraneural infiltration and neuronal necrosis with an intraneural viral cytopathic effect. Leukocytoclastic vasculitis features accompanied perineuritis in 67% (3).

Herpes zoster ophthalmicus is characterised by involvement of the first trigeminal branch, and ocular involvement occurs in approximately 50% of patients. Vasculitis and perineuritis can be seen when optic nerve and posterior ciliary arteries and nerves are involved (4). Nevertheless there is no clear information about the pathogenesis of post-herpetic neuralgia and neuropathic pain. Recent studies suggest that although the nociceptive neurons are functionally preserved (2), chronic pain is associated with the loss of cutaneous sensory nerve terminals in post-herpetic neuralgia (2, 5). Watson *et al*. described the post-mortem findings in 5 cases of post-herpetic neuralgia. These included marked loss of myelinated axons in the nerve and/or sensory root, and in 2 cases a marked inflammatory process in the nerve (6).

Perineuritis has indeed been observed in other neuropathic diseases causing long-lasting neuralgia (7-9). Persistence of perineural mononuclear cell inflammation several months after skin healing may then constitute a pathogenic mechanism for some cases of post-herpetic neuralgia.

A number of histopathologic changes can be discovered in a temporal artery biopsy which may lead to the diagnosis of diseases other than giant-cell arteritis. These include amyloidosis, lymphoma, Kimura disease and other vasculitides such as polyarteritis nodosa, Buerger's disease, Wegener's granulomatosis and Churg-Strauss syndrome (10).

Up to now no cases of perineuritis near the temporal artery have been communicated. When a lesion compatible with perineuritis in a temporal artery biopsy is observed, a preceding infection for herpes zoster in this area should be suspected.

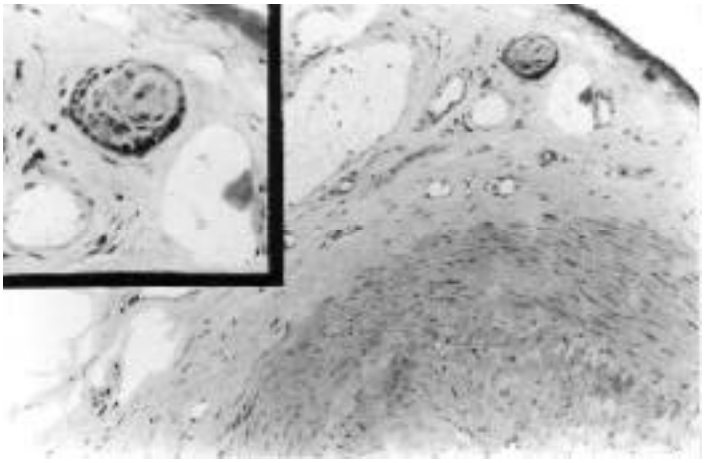

**Fig. 1**. Temporal artery biopsy showing a normal artery with a mild mononuclear inflammatory reaction around a nerve (detail).

J. HERNÁNDEZ-RODRÍGUEZ, *MD*
M.C. CID, *MD*
J.M. GRAU, *MD*

*Vasculitis Research Unit, Department of Internal Medicine, Institut d'Investigacions Biomèdiques August Pi i Sunyer, Hospital Clínic, Medicine School, University of Barcelona, Spain.*

*Supported by FIS 99/0231. José Hernández-Rodríguez is the recipient of a research award from Hospital Clinic and Fundació Universitaria Pedro i Pons.*

*Address correspondence and reprint requests to: Dr. Josep M. Grau, Department of Internal Medicine, Hospital Clinic, Villarroel 170, 08036 Barcelona, Spain.*

## References

1. KOST RG, STRAUS SE: Postherpetic neuralgia - Pathogenesis, treatment and prevention. *N Engl J Med* 1996; 335: 32-42.
2. ROWBOTHAM MC, YOSIPOVITCH G, CONNOLLY MK, FINLAY D, FORDE G, FIELDS HL: Cutaneous innervation density in the allodynic form of postherpetic neuralgia. *Neurobiol Dis* 1996; 3: 205-14.
3. WORRELL JT, COCKERELL CT: Histopathology of peripheral nerves in cutaneous herpesvirus infection. *Am J Dermopathol* 1997; 19: 133-7.
4. WENKEL H, RUMMELT V, FLECKENSTEIN B, NAUMANN GO: Detection of varicella zoster virus DNA and viral antigen in human eyes after herpes zoster ophthalmicus. *Ophthalmology* 1998; 105: 1323-30.
5. OAKLANDER AL, ROMANS K, HORASEK S, STOCKS A, HAUER P, MEYER RA: Unilateral postherpetic neuralgia is associated with bilateral sensory neuron damage. *Ann Neurol* 1998; 44: 789-95.
6. WATSON CP, DECK JH, MORSHEAD C, VAN DER KOOY D, EVANS RJ: Post-herpetic neuralgia: Further post-mortem studies of cases with and without pain. *Pain* 1991; 44: 105-17.
7. MIDRONI G, BILBAO JM: Idiopathic inflammatory neuropathies: Sarcoidosis and perineuritis. *In:* MIDRONI G and BILBAO JM (Eds.): *Biopsy Diagnosis of Peripheral Neuropathy*. Boston, Butterworth-Heinemann, 1995: 197-207.
8. SIMMONS Z, ALBERS JW, SIMA AA: Case-of-the-month: Perineuritis presenting as mononeuritis multiplex. *Muscle Nerve* 1992; 15: 630-5.
9. SORENSON EJ, SIMA AA, BLAIVAS M, SAWCHUK K, WALD JJ: Clinical features of perineuritis. *Muscle Nerve* 1997; 20: 1153-7.
10. CID MC, CAMPO E: Diagnostic efficacy of temporal artery biopsy. *Med Clin (Barc)* 1989; 92: 95-7.