half the duration of the illness), presentation of RA, rheumatoid factor (RF) (by nephelometry), patient's assessment of pain,⁴ physician's assessment of RA,⁴ Health Assessment Questionnaire (HAQ),⁵ swollen joint count,⁴ erythrocyte sedimentation rate (ESR), EAM, comorbidity, and treatment. The investigation was conducted at The Charity Hospital in New Orleans, which is a primary care centre. Univariate and multivariate analysis, logistic regression, and Kaplan-Meier method were used to analyse variables.⁶⁻⁷

Table 1 shows the demographic and clinical characteristics of the patients. In 18 patients (38%), at least one EAM was observed, nodulosis being the most common (observed in 17 patients). In 39 patients (83%), at least one comorbid condition was noted; hypertension was the most common (present in 14 patients). Physician's assessment of RA was the most highly inter-correlated measure in assessing patients when correlated with HAQ ($r = 0.5$, $p = 0.001$), patient's assessment of pain ($r = 0.6$, $p = 0.0001$), and swollen joint count ($r = 0.4$, $p = 0.004$). Formal educational level, marital status, employment, and presentation of RA had no impact on the outcome (disability) of the disease (table 2). There were no significant differences in the independent comparison between clinical factors regarding the presence of RF but, after adjusting for clinical cofactors (age, duration of disease, physician's assessment of RA, swollen joint count, ESR, and EAM), an association between seropositive RF and HAQ ≥ 1.37 was observed (odds ratio 12.3, 95% confidence interval 1.1 to 135, $p = 0.04$). In 34 patients methotrexate (MTX) was administered (dose: 11.3 (4) mg/week, mean duration 23.4 months). Four patients discontinued MTX because of side effects; increasing age was the main factor associated with toxicity and permanent discontinuation. After adjustments for age, the cumulative probability of continuing to take MTX at one and five years was 89% and 84%, respectively.

Table 1 Demographic and clinical characteristics of black American patients with rheumatoid arthritis

Sex (M/F)	3/44
Age (yr)	54.7 (2.1)
Disease duration (yr)	11 (8)
Rheumatoid factor (+) (%)	64
Mean concn (U/ml)	805
Extra-articular features	38
Family history of RA	34
Comorbidity	83
Patient's assessment of pain	6.1 (2.7)
Physician's assessment of RA	4.8 (2.2)
HAQ	1.3 (0.7)
Swollen joint count	3.7 (4.6)
ESR (mm/h)	49 (30)

Values are mean (SD) where relevant.

Table 2 Relation between formal educational level, marital status, employment, and presentation of RA with physician's assessment of the disease, as a measure of outcome of RA in black Americans

Formal educational level	<8 grade (n = 8) 4.4 (0.8)	9-12 grade (n = 31) 5.3 (0.4)	College (n = 8) 3.5 (0.6)
Marital status	Single (n = 33) 4.7 (0.4)	Married (n = 14) 5.1 (0.5)	
Employment	Yes (n = 8) 4.7 (1.1)	No (n = 39) 4.8 (0.3)	
Presentation	Mono/oligoarticular (n = 19) 4.2 (0.4)	Polyarticular (n = 28) 5 (0.4)	

No statistical differences were observed (Wilcoxon test).

Because more than 95% of the population attending The Charity Hospital are black Americans, we were unable to study a control group. Despite the study size, our results suggest that, in our black American population, RA is less severe, in terms of disability and presence of EAM, than in white patients and a previous series reported in black Americans.²⁻⁸ These results are in agreement with other published studies in black African RA patients, but contrast with studies in the urban South African Bantu people.¹⁻⁹ We found that the presence of RF was a modifying factor of outcome, while those demographic variables analysed were not. MTX treatment was well tolerated.

Predictors of worsening clinical variables and outcomes in RA have been reviewed by Pincus and Callahan¹⁰ and Furst.¹¹ They include genetic factors, female gender, number of swollen joints, subcutaneous nodules, RF positivity, early erosions, low formal education level, single marital status, and unemployment.¹⁰⁻¹¹ Factors which could explain the differences observed in the present study include genetic, ethnic, geographic, and environmental factors.¹⁻¹²⁻¹³ It should be taken into consideration also that our population was seen, on average, once every two months; this may be associated with a greater likelihood of improvement in disability.¹⁴ Lastly, the potential role of MTX treatment in altering the natural course of the disease deserves some consideration; 72% of our patients were treated with MTX. Our results also extend the observations in previous studies showing that black Americans and younger patients seem to have a better probability of continuing MTX treatment.¹⁵⁻¹⁶ The complex ways in which race and socioeconomic status create differences in health must be more fully investigated. Multicentre and comparative surveys may help to elucidate the factors incriminated in the expression RA and their causes.

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LETTER TO THE EDITOR

Dactylitis also involving the synovial sheaths in the palm of the hand

Dactylitis, 'sausage digit' (finger or toe), is a typical manifestation of seronegative spondyloarthritis (SpA).¹⁻⁶ The sausage-like appearance is caused by concomitant flexor tenosynovitis and synovitis of the interphalangeal and metacarpophalangeal (MCP) (or metatarsophalangeal) joints.¹

We describe here the case of a woman suffering from psoriatic SpA and showing dactylitis of the middle finger also involving an uncommon anatomical feature of synovial sheaths communicating with the ulnar palmocarpal sheaths. To our knowledge there are no previous report of this situation.

A 37 year old woman was referred to our Rheumatic Disease Unit in May 1993 for evaluation of a two year history of pain and swelling in the middle finger extending into the palm of the left hand. Her medical history disclosed that she had been affected by psoriasis for 31 years and had suffered from numerous episodes of buttock pain and inflammatory low back pain and stiffness during the previous 21 years. In the past few years, the pain had extended to the cervical

Figure 1 Swelling in the palm of the left hand along the flexor tendons of the middle finger.

spine and episodes of arthritis of the MCP joints and dactylitis of the index, middle and ring fingers of both hands had occurred.

The family history was negative for SpA with the exception of a cousin suffering from psoriasis.

Physical examination showed dactylitis of the middle finger of the left hand and tenderness of the first right MCP. The flexor sheaths and the MCP joint of the left middle finger were swollen and tender. The painful swelling of the synovial sheaths of the flexor tendons extended as far as the middle part of the palm of the hand (fig 1). Pain was also elicited by pressure along the flexor tendons of the left fourth toe. There was no limitation of spine movement and chest expansion. Scalp psoriasis and psoriatic nail lesions were seen.

Laboratory investigations showed no abnormalities except for an erythrocyte sedimentation rate (Westergren) of 22 mm/h. HLA typing showed A2, Aw30, B8, B27, Cw2, Cw7, DR1 and DQ1 antigens.

Radiographs of the hands showed only soft tissue swelling. An anteroposterior view of the pelvis revealed grade 2 sacroiliitis in the left sacroiliac joint and suspicious changes in the right one. Cervical, dorsal and lumbar spine radiographs were normal.

Ultrasonography, performed using the technique of Fornage and Rifkin⁷ with a 7.5 MHz linear array transducer and a stand off gel pad, showed a larger diameter of the flexor tendons of the left third finger compared with that of the right hand. The swelling was associated with hypochoic areas surrounding the tendons, suggesting fluid collection in their sheaths. These areas continued without interruption along the tendons into the middle part of the palm of the hand (fig 2). The flexor tenosynovitis, including the sausage aspect, subsided after injections of corticosteroid into the synovial sheaths at the point of maximum swelling in the palm and has not reappeared.

Figure 2 A: Transverse sonogram of the palm of the left hand showing a hypochoic area (arrow) surrounding the flexor tendons of the middle finger. B: Transverse sonogram of the palm of the right hand showing the normal aspect of the flexor (calipers) of the third finger.

Our patient met both the Amor⁴ and the European Spondylarthropathy Study Group criteria⁵ for the classification and diagnosis of SpA and showed a typical dactylitis. Ultrasonography, which has been shown to be useful in studying other forms of finger tenosynovitis such as acute suppurative tenosynovitis⁸ and rheumatoid arthritis tenosynovitis,⁹ showed the involvement of the flexor tendon sheaths of the middle finger. The synovial sheaths were also involved in the middle part of the palm, causing the swelling shown in figure 1. This was possible because, in our patient, the sheaths of the middle finger communicated, as shown by ultrasonography, with the ulnar palmocarpal sheaths. The most frequent pattern of digital and palmocarpal synovial sheaths is well known.¹⁰ The index, middle and ring fingers have sheaths separate from those of the radial and ulnar bursae, which communicate respectively with the synovial sheaths of the thumb and the little finger. However, variants showing communication of the sheaths of the index, middle or ring fingers with the ulnar bursa occur frequently.

Our report suggests that the involvement of communicating synovial sheaths in the palm of the hand should be looked for in patients with SpA showing finger dactylitis.

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