Rheumatic disorders in Zimbabwe: a prospective analysis of patients attending a rheumatic diseases clinic

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Abstract
The pattern of rheumatic disease in Africa differs from that in Europe and the United States and these differences may provide clues to its cause or pathogenesis. In a six month prospective analysis of 141 patients (83 female) attending a rheumatic diseases clinic rheumatoid arthritis was the commonest disorder, occurring in 49 patients. Twenty seven of the 49 (55%) were seropositive, 25 (51%) had erosive disease with rheumatoid nodules (13/49, 27%), and extra-articular complications (6/49, 12%), indicating a pattern of disease unlike the early reports from Africa. Systemic lupus erythematosus found in 18/141 (13%), gout in 12 (9%), ankylosing spondylitis in six (4%), and Reiter’s syndrome in five (4%), in contrast with their rarity in previous reports from Africa, were not uncommon, whereas tropical polyarthritis was seldom diagnosed. The pattern of rheumatic disease in Harare, a large city, is changing to approximate more closely the pattern seen in developed countries.

The pattern of rheumatic diseases in Africa has aroused interest as differences in prevalence and clinical features may provide clues to causation and pathogenesis. Rheumatoid arthritis (RA) was thought to be uncommon in Africa, with Hall reporting seven cases in 10 000 hospital admissions from Kenya in 1962, and the illness apparently not described in black South Africans before 1970. Greenwood subsequently noted that in Nigerians RA was a milder illness with a rarity of nodules, vasculitis, and radiological erosions. More recent reports from Africa, however, have found the prevalence of RA in an urban population to be similar to that in Western Europe, with severe disease more prominent than in earlier reports. Similarly, systemic lupus erythematosus (SLE) was excessively rare in Africa, with the illness unrecorded before 1960 and single case reports of small series of patients subsequently reported, but it is now reported more often. There are two studies of the pattern of rheumatic diseases in Zimbabwe. Gelfand in 1969 described patients admitted to medical wards with arthritis and Lutalo in 1985 reported the pattern of chronic inflammatory rheumatic diseases in patients on a chronic diseases register. Our experience differs from these descriptions and most other reports from Africa.

Patients and methods
We prospectively studied all patients attending a rheumatic diseases clinic for six months at Parirenyatwa Hospital, a major referral hospital in Harare. Health services in Zimbabwe extend to the most remote parts of the country with most patients initially seen at primary health care clinics by specially trained registered nurses. Problems are referred either to the clinic doctor or to a hospital. Specialist services are concentrated in the large central hospitals of Bulawayo and Harare and patients are referred from distant hospitals, from primary health care clinics within the cities, from general practitioners, and from outpatient or casualty services within the hospitals. At the time of the study this was the only specialist rheumatic diseases clinic, but many patients with rheumatic diseases are managed by other health workers throughout the country. Patients from both urban and rural backgrounds were referred to the clinic by colleagues aware of our interest in inflammatory rheumatic disease.

Patients were assessed by one of the authors, appropriate serological investigations performed, and x rays obtained of relevant joints. Patients with RA fulfilled the criteria for diagnosis, patients with SLE fulfilled the American Rheumatism Association preliminary criteria, patients with Reiter’s syndrome fulfilled the criteria proposed by Calin, and patients with ankylosing spondylitis fulfilled the New York criteria. As electromyography and muscle biopsies are seldom performed in our patients with dermatomyositis and polymyositis, criteria for diagnosis were classical clinical findings and markedly raised muscle enzymes. The diagnosis of gout was made in patients with uric acid crystals in the synovial fluid or those with a classical history and radiological changes typical of gout. Functional class was assessed by a local modification of the American Rheumatism Association gradings: class I—normal function; II—normal function, though with pain and difficulty; IIIa—ability to do paid work or housework diminished but self sufficient in activities relating to personal hygiene and care; IIIb—as for IIIa but not self sufficient; and IV—chair or bedridden.

Results
Table 1 shows the diagnosis and sex distribution of the patients seen and table 2 the clinical features of the 49 patients with RA. The average duration of disease in patients with RA was 5-5 (SD 4-9) years and the pattern of joint involvement was small joints of the hand in 43/49 (88%), wrist in 38 (78%), knee in 30 (61%), ankle in 24 (49%), elbow in 15 (31%), shoulder
Table 1: Age and sex distribution of patients attending a rheumatic diseases clinic in Zimbabwe

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Total number</th>
<th>Men</th>
<th>Women</th>
<th>Onset age in years (SD)</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatoid arthritis</td>
<td>49</td>
<td>18</td>
<td>31</td>
<td>38.9 (11.9)</td>
<td>35</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>58.0 (11.7)</td>
<td>4</td>
</tr>
<tr>
<td>Gout</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>51.6 (8.6)</td>
<td>9</td>
</tr>
<tr>
<td>Juvenile chronic arthritis</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>9.8 (4.9)</td>
<td>4</td>
</tr>
<tr>
<td>Systemic lupus erythematosus</td>
<td>11</td>
<td>0</td>
<td>11</td>
<td>30.8 (11.7)</td>
<td>13</td>
</tr>
<tr>
<td>Dermatomyositis</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>23.4 (12.8)</td>
<td>4</td>
</tr>
<tr>
<td>Scleroderma</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>34.0 (9.2)</td>
<td>2</td>
</tr>
<tr>
<td>Reiter’s syndrome</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>28.2 (2.3)</td>
<td>4</td>
</tr>
<tr>
<td>HIV reactive arthritis</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>32.8 (6.0)</td>
<td>9</td>
</tr>
<tr>
<td>Ankylosing spondylitis</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>35.9 (12.7)</td>
<td>4</td>
</tr>
<tr>
<td>Unclassified acute</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>35.7 (15.2)</td>
<td>3</td>
</tr>
<tr>
<td>Unclassified chronic</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>NA</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>NA</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>58</td>
<td>83</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The five patients with unclassified chronic arthritis did not fulfil the diagnostic criteria used. Probable gout (one patient) and probable rheumatoid arthritis (four) were the diagnoses. Conditions under the heading 'miscellaneous' (one patient each) were rheumatic fever, metabolic bone disease, fibromyalgia, haemophilia, bone cyst, palindromic rheumatism, frozen shoulder, erythema nodosum, pseudogout, tuberculosis, and a Charcot’s joint.

Discussion

Although this study was performed prospectively over six months, many of the patients had been attending the hospital before the study period and as it presents the pattern of rheumatic illness seen at a specialist, hospital based clinic it would be inappropriate to infer prevalence or incidence data. Rheumatoid arthritis, as in other studies, was the commonest illness seen, and in keeping with the more recent reports followed the pattern of illness seen in Europe more closely, with seropositive, destructive arthritis, and a female preponderance, rather than the milder pattern described by Greenwood. The prevalence of RA as well as the severity of illness is increased in urban African populations compared with their rural counterparts. One explanation for the differences between the original reports and the more recent ones is a changing pattern of disease due to increased urbanisation.

There are no formal epidemiological studies of the prevalence of SLE in urban and rural African populations. The pattern of recognition has been similar to that for RA, with the illness recognised initially and then reported more and more often. Systemic lupus erythematosus in Zimbabwe is no longer a rare disease and we have recently reported the largest series from Africa. These changes in the pattern of disease are unlikely to be due to altered diagnostic skills as the early formal medical services in most African countries were provided by expatriate doctors with a training emphasis in these illnesses. Gelfand did not find a single case of SLE in 1969 in a central hospital in Harare. More recently (1985), Lutalo in a district hospital in Gweru, Zimbabwe found no patients with SLE on a chronic diseases register. This adds weight to the argument that the pattern of disease has changed, with illnesses previously rare now occurring in large cities. Most patients attending our clinic, including those with SLE, were from Harare. A formal epidemiological study is urgently needed to consider this problem.

Tropical polyarthritis has been one of the major causes of acute arthritis in Africa. This is a poorly defined entity and an identical clinical picture may be caused by gonococcal arthritis or poststreptococcal reactive arthritis. We saw only four patients with an acute arthritis that did not fulfil the criteria for well recognised diagnostic categories. These patients might have had tropical polyarthritis or a postviral arthritis. Possible reasons for the rarity of tropical polyarthritis at our clinic are that patients are often incapacitated and admitted to...
hospital, or again the pattern of disease may be changing. A formal study of patients admitted to hospital with arthritis is under way to answer this question. Osteoarthritis, particularly involving the knees, is not uncommon. A referral pattern biased towards the inflammatory arthritides is the explanation for the few patients seen.

The spondyloarthropathies are rare in Africa with less than 20 cases of ankylosing spondylitis reported before 1980, and Reiter's syndrome recorded in isolated case reports. Striking features in our patients were the absence of both HLA-B27 and a family history of arthritis.

We have described the pattern of rheumatic diseases seen at a specialist clinic in Harare. This differs from most other reports in that tropical polyarthritis is uncommon whereas the spondyloarthropathies and connective tissue diseases are being seen more often.