Polyarthritis in Western Nigeria

III. Other forms of polyarthritis

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survey of the pattern of polyarthritis occurring among patients presenting at University College Hospital (UCH), Ibadan, Nigeria, between 1957 and 1967 has been carried out. The features of adult Nigerian patients with rheumatoid arthritis and of Nigerian children with Still’s disease have already been described (Greenwood, 1969a, b). This paper records some of the findings in patients with other forms of polyarthritis studied in the course of this survey.

Acute tropical polyarthritis

During the period 1965-1967, twelve patients presented at UCH, Ibadan, with an acute self-limiting polyarthritis for which no cause could be established. Many of these patients, who were all adults, were severely disabled by polyarthritis affecting both large and small joints. They were all febrile but no other abnormal physical signs were found which could be related to their joint condition. The erythrocyte sedimentation rate was raised in each patient but other laboratory investigations were normal. X-rays of the hands, feet, knees, and pelvis showed no abnormalities apart from soft tissue swelling. Chest x-rays were all normal. Each patient made a complete recovery within a few weeks on treatment with analgesics alone. They had a number of features in common and it seemed likely that they represented a distinct syndrome for which the term ‘acute tropical polyarthritis’ was coined.

A retrospective diagnosis of the syndrome was made in 21 patients when the notes and radiographs of all patients in the survey were reviewed. The surviving members of this group were all traced, and at a follow-up examination none had any clinical or radiological signs of chronic inflammatory polyarthritis and none had any signs of heart disease. (The detailed findings in this group of patients are published elsewhere: Greenwood, 1969c.)

Arthritis with urogenital disease

In 25 patients (23 of them males) arthritis developed in association with disease of the urogenital tract. A diagnosis of gonococcal polyarthritis was definitely established in one case by the isolation of Neisseria gonorrhoeae from purulent synovial fluid from an acutely inflamed wrist, but the differential diagnosis proved extremely difficult in the remaining patients. Both gonococcal and non-specific urethritis are common in the local community (Osoba, 1968), and many patients with urethritis take local remedies which frequently contain small amounts of antibiotics, including penicillin, before presenting at the hospital. Bacteriological findings at the time of presentation at UCH, Ibadan, are therefore an unreliable means of differentiation between non-specific and gonococcal infections. A rapid response to antibiotic treatment is a characteristic finding in cases of proven gonococcal arthritis (Partain, Cathcart, and Cohen, 1968). This criterion was therefore used to differentiate patients in the present series into cases of probable gonococcal polyarthritis and cases of probable Reiter’s syndrome (Table I, opposite).

Patients with probable gonococcal polyarthritis tended to have more frequent involvement of the upper limb and a more marked constitutional disturbance than patients with probable Reiter’s syndrome. Conjunctivitis was seen in patients in both groups, but cutaneous lesions (keratoderma blennorrhagica and circinate balanitis) only in those with probable Reiter’s syndrome.

Radiological changes were restricted to those with probable Reiter’s syndrome.

A synovial biopsy from the knee of a female patient with probable gonococcal polyarthritis showed marked tissue necrosis and a heavy infiltration of the synovium with polymorphonuclear leucocytes. In contrast synovial biopsies from two patients with probable Reiter’s syndrome showed
Table I  Findings in patients with probable gonococcal polyarthritis and probable Reiter's syndrome

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Probable gonococcal arthritis</th>
<th>Probable Reiter's syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total patients</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Mean age at onset (yrs)</td>
<td>30-8</td>
<td>30</td>
</tr>
<tr>
<td>No. with past history of arthritis</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>No. with preceding urogenital infection</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Interval between urogenital infection and onset of arthritis (wks)</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Time from onset of arthritis to presentation at UCH, Ibadan</td>
<td>4 days</td>
<td>7-7 wks</td>
</tr>
<tr>
<td>Site of arthritis</td>
<td>Knee and wrist &gt; elbow</td>
<td>Ankle &gt; knee &gt; wrist</td>
</tr>
<tr>
<td>No. with conjunctivitis</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>No. with cutaneous involvement</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>No. with temp. above 100°F.</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Mean W.B.C. (/cu. mm.)</td>
<td>10,400</td>
<td>6,700</td>
</tr>
<tr>
<td>Gonococci present in urethral smear</td>
<td>3/4</td>
<td>3/10</td>
</tr>
<tr>
<td>No. with abnormal x rays</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>No. with active disease still present after 2 mths</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>No. with residual deformity present after 6 mths</td>
<td>0/3</td>
<td>5/10</td>
</tr>
<tr>
<td>No. of relapses</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Synovial hyperplasia, increased vascularity, and a diffuse infiltration with lymphocytes, polymorphonuclear leucocytes, and plasma cells.

Residual joint deformity was observed only in the group of patients with probable Reiter's syndrome. However, one of the patients with probable gonococcal polyarthritis was left with a deformity of a finger following rupture of an extensor tendon which was involved in a suppurative process extending from the wrist onto the dorsum of the hand.

Relapses were observed only in the patients with probable Reiter's syndrome.

Acute rheumatic fever

Polyarthritis developed during the course of an attack of acute rheumatic fever in 25 patients. During the period 1957-1967 a further nine patients were admitted to UCH, Ibadan, with acute rheumatic fever without polyarthritis and these patients have been included in the following analysis.

Most of the Nigerian patients with acute rheumatic fever were teenage children and only two patients over 25 years old were encountered. Acute rheumatic fever was seen more frequently in females than males. The clinical features of Nigerian children seen during an attack of rheumatic fever resembled closely the pattern of the disease described in temperate climates. One half of the patients gave a history of migratory polyarthritis. The distribution of the arthritis was typical of the condition. Circumscribed areas of erythema marginatum could be seen quite distinctly in two patients, in spite of the presence of skin pigmentation. Sub-cutaneous nodules were found in only four patients although the incidence of carditis in the series was high (65 per cent.). The rheumatic nature of the nodules was definitely established in only one case in which biopsy was performed. In the remaining patients the nodules may have been due to an associated parasitic infection.

Children with acute rheumatic fever were kept in hospital for as long as possible, but hospital admission for more than one month was rarely practicable. Elevation of the erythrocyte sedimentation rate is frequently found in apparently healthy Nigerian children and this investigation proved to be of little value in following the course of the disease. Most patients defaulted shortly after leaving hospital and only four received prolonged penicillin prophylaxis.

Tracing the 34 patients with rheumatic fever proved particularly difficult, for many of these young patients had left their homes in and around Ibadan to take up work in other parts of Nigeria. Two of the patients are known to have died, from heart failure and the nephrotic syndrome respectively. A third patient died in his village from an unknown cause. The findings at follow-up examination in the seventeen remaining patients who could be traced are summarized in Table II (overleaf). At a mean duration of 3 years since presenting with acute rheumatic fever, ten of the seventeen patients had signs of chronic rheumatic heart disease. Four patients had developed tight mitral stenosis 1, 2, 3, and 9 years respectively after their initial attack of acute rheumatic fever.

The progressive development of mitral stenosis and pulmonary hypertension was observed over a 2-year period in a girl presenting with her first attack of rheumatic fever at the age of 11 years. The
Table II  Outcome of acute rheumatic fever in 34 patients

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dead</td>
<td></td>
</tr>
<tr>
<td>Nephrotic syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Heart failure</td>
<td>1</td>
</tr>
<tr>
<td>Cause unknown</td>
<td>1</td>
</tr>
<tr>
<td>Pure mitral stenosis</td>
<td>3</td>
</tr>
<tr>
<td>Pure mitral incompetence</td>
<td>4</td>
</tr>
<tr>
<td>Mitral stenosis and incompetence</td>
<td>3</td>
</tr>
<tr>
<td>Normal</td>
<td>7</td>
</tr>
<tr>
<td>Outcome unknown</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
</tr>
</tbody>
</table>

Four patients who had developed mitral stenosis all had signs of endocarditis during their acute attack of rheumatic fever but had no other features to differentiate them from other patients in the series in whom the disease followed a more benign course.

Septic polyarthritis

Pyogenic infections of bones and single joints are commonly seen at UCH, Ibadan, but only a few patients were encountered with pyogenic polyarthritis. In some cases a definite diagnosis of septic polyarthritis was established by isolation of pathogenic bacteria from more than one joint. In others, in which polyarthritis was only one component of a widespread generalized infection, the affected joints were not aspirated, and the diagnosis of septic polyarthritis was only presumptive, but pathogenic bacteria were isolated from at least one inflammatory focus.

In contrast to the findings in temperate climates, only three of the twenty patients studied had a predisposing cause to infection: steroid therapy in one and a homozygous genotype abnormality in two. Seventeen of the twenty patients had signs of an infective process elsewhere and in many cases the extra-articular lesions dominated the course of their illness. Pneumonia, osteomyelitis, meningitis, and pericarditis were often found as associated features. The commonest pathogen isolated from the affected joints was *Staphylococcus aureus*. Although salmonella infections, including *Salmonella typhi*, are seen frequently at Ibadan, only two cases of salmonella polyarthritis were encountered.

The prognosis in cases of septic polyarthritis was poor and only four patients made a complete recovery. Two patients died from generalized septicaemia and two developed chronic osteomyelitis. Two patients examined 1 and 2 years respectively after presentation with septic polyarthritis were found to have residual synovial thickening and effusion at the affected joint.

Tuberculous polyarthritis

Tuberculous involvement of bone and tuberculous monoarthritis are seen frequently at UCH, Ibadan, but polyarthritis with tuberculosis is seen only infrequently. Such patients fall into three groups:

(1) Polyarthritis with coincidental tuberculosis

Two patients with Still’s disease were found to have coincidental tuberculosis.

(2) Direct tuberculous polyarthritis

Although direct tuberculous involvement of a single joint was observed frequently only five patients were seen with direct tuberculous involvement of more than one joint. Three of these five patients had bilateral sacroillitis.

(3) Allergic tuberculous polyarthritis

Three patients presented with acute polyarthritis associated with the development of extra-articular tuberculosis. In two of these a diagnosis of tuberculous lymphadenitis was established by biopsy and the third had primary pulmonary tuberculosis with a positive sputum.

Both knees and the right elbow were involved in an acute arthritis in one patient and in the other two patients multiple joint involvement was seen. All three patients were febrile and in two cases marked daily swings in temperature were observed (Fig. 1, opposite).

Laboratory investigations failed to reveal any other cause for the arthritis. X rays of the affected joints were normal. Within 3 days to 3 weeks from the onset of treatment the joint signs resolved completely, and at a follow-up examination 18 months to 3 years after presentation no joint abnormalities were detected. In each patient the extra-articular features of tuberculosis responded satisfactorily over a period of months to antituberculous therapy.

Gout

Ten patients with gout were studied, nine of whom were male. Only four new cases of the disease were seen during the 2-year period 1965-1967. Gout was seen only in older subjects, the mean age of the ten patients studied being 52.7 years old. Six of the patients were from the professional class, who comprise only a minute proportion of the local community, but typical cases of the disease were also seen in a tailor and a labourer. Only one patient, a lawyer, had a family history of the disease; many of the members of this family belonged to the professional class. Six of the ten patients were obese. All the patients studied took alcohol in some form, but only one, an education officer who consumed four
five pints of beer per day, admitted to a heavy alcohol consumption.

Each patient gave a history of acute gout and a number of acute episodes were observed. The affected joints showed the classical features of podagra including skin discoloration. Five patients, who had each had gout for many years, had signs of chronic arthritis. Two had marked tophaceous deposits and small tophi were observed in a further two instances. Three patients were mildly hypertensive and five had evidence of renal damage. However, in two of these cases, proteinuria may have been related to associated heart muscle disease.

Raised serum uric acid levels varying from 8.6 to 15.1 mg./100 ml. were obtained from each patient at some time during the course of their illness. By comparison a mean level of 4.2 mg./100 ml. was obtained in 100 adult male Nigerian blood donors using an automated colorimetric technique. The distribution curve for these 100 subjects is contrasted with values obtained by Lawrence, Hewitt, and Popert (1963) in healthy English males in Fig. 2.

Six patients had radiological changes in the hands and feet compatible with a clinical diagnosis of gout. Both colchicine and indomethacin were found to be effective in the treatment of acute attacks. Prolonged uricosuric therapy was achieved in only three patients, as most of them defaulted from the clinic after the successful treatment of the acute episodes. In two patients a reduction in the frequency of acute attacks and a satisfactory lowering of the serum uric acid level were achieved. Hyperuricaemia persisted in the third patient who had renal disease.

Osteoarthritis

Polyarticular osteoarthritis was not a common clinical problem and only twelve patients with the conditions were studied, most of whom were elderly. The clinical and radiological findings in this small group of cases showed no variation from the pattern of the disease encountered in temperate climates except for a low incidence of Heberden's nodes.

![Chart of a 25-year-old female patient who presented with generalized tuberculosis and polyarthritis.](http://ard.bmj.com/)

**FIG. 1** Chart of a 25-year-old female patient who presented with generalized tuberculosis and polyarthritis.

**FIG. 2** Serum uric acid distribution in 100 male Nigerian blood donors aged 15 to 44 years compared with that in 224 healthy English males of the same age distribution (Lawrence, Hewitt, and Popert, 1963).
Miscellaneous conditions

Isolated cases of a wide variety of miscellaneous conditions were seen (Table III).

Table III  Miscellaneous diagnoses in Nigerian patients with polyarthritis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylosing spondylitis</td>
<td>3</td>
</tr>
<tr>
<td>Systemic collagen diseases</td>
<td></td>
</tr>
<tr>
<td>Systemic lupus erythematosus</td>
<td>1</td>
</tr>
<tr>
<td>Sjögren’s syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Scleroderma</td>
<td>1</td>
</tr>
<tr>
<td>Blood diseases</td>
<td></td>
</tr>
<tr>
<td>Haemophilia</td>
<td>1</td>
</tr>
<tr>
<td>Haemoglobin sc disease</td>
<td>1</td>
</tr>
<tr>
<td>Paraproteinaemias</td>
<td></td>
</tr>
<tr>
<td>Multiple myeloma with amyloid arthropathy</td>
<td>1</td>
</tr>
<tr>
<td>Macroglobulinaemia</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
<tr>
<td>Reticulosarcoma</td>
<td>1</td>
</tr>
<tr>
<td>Brucellosis</td>
<td>1</td>
</tr>
<tr>
<td>Jacoud’s syndrome</td>
<td>1</td>
</tr>
<tr>
<td>Allergic polyarthritis</td>
<td>1</td>
</tr>
<tr>
<td>Snake-bite arthritis</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis and cancrum oris</td>
<td>1</td>
</tr>
<tr>
<td>Arthrogryphosis multiplex</td>
<td>1</td>
</tr>
<tr>
<td>Sarcoiditis</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

There were only three cases of ankylosing spondylitis; one of these patients, a 56-year-old woman, was unusual in that she first developed symptoms of the disease at the age of 50, and radiological signs of the disease 3 years later.

Systemic connective tissue disorders are seen rarely at UCH, Ibadan (Greenwood, 1968), and only three cases of polyarthritis associated with a systemic connective tissue disease were seen; a 10-year-old girl with scleroderma, a 35-year-old woman with systemic lupus erythematosus, and a 45-year-old man with Sjögren’s syndrome.

A single case of haemophiliac arthropathy was studied. Haemophilia is probably very rare in West Africa and failure to consider the diagnosis almost led to the death of a 17-year-old Nigerian boy with the condition when diagnostic biopsy of a nodule in the thigh was followed by prolonged bleeding. Neither of the patient’s parents had anti-haemophiliac globulin deficiency.

Bone infarctions occurring as a consequence of sickle cell disease may be associated with secondary joint effusions. These patients have not been included in the present study. However, one case of haemoglobin sc disease presenting in adult life as polyarthritis involving a hip and shoulder was seen. X rays of the affected joints showed aseptic bone necrosis.

No definite diagnosis could be established in five patients who presented with bizarre clinical syndromes comprising polyarthritis, visceral involvement, and a variety of cutaneous lesions.

Discussion

During a survey of new cases of polyarthritis presenting at UCH, Ibadan, during the period 1965-1967, a number of adult patients were seen with an unusual form of acute self-limiting polyarthritis associated with fever for which no cause could be found. Follow-up of a group of patients with the condition showed that recovery from the disease was complete. Patients with a similar illness have been seen in East Africa (Shaper and Shaper, 1958; Shepherd-Wilson, 1960; Gelfand, 1963) but are rarely encountered in temperate climates. ‘Acute tropical polyarthritis’ therefore seemed a suitable term to describe the syndrome.

Both gonococcal and non-specific urethritis occur frequently in Ibadan and often pass untreated. It was therefore not surprising to find that gonococcal polyarthritis and Reiter’s syndrome accounted for a considerable proportion of the number of our cases of polyarthritis. It seems likely that these conditions are a common cause of polyarthritis in other parts of tropical Africa although only two previous reports of the occurrence of the post-venereal form of Reiter’s syndrome in tropical Africa have been found (Davies and Vaizey 1961; Hall, 1966).

Since the introduction of effective chemotherapy for gonococcal urethritis, gonococcal polyarthritis has become a rare disease in the developed countries. At UCH, Ibadan, both gonococcal joint inflammation and Reiter’s syndrome were found to be important causes of polyarthritis. Differentiation between these two conditions often proved to be very difficult, but the response to antibiotic therapy was used to separate cases of probable gonococcal polyarthritis from cases of probable Reiter’s syndrome. A number of differences were noted between the two groups of patients which are in close agreement with the findings of Wright (1963) in a comparison of the features of patients with gonococcal polyarthritis and Reiter’s syndrome admitted to the Johns Hopkins Hospital, U.S.A.

The pattern of joint involvement observed in the seventeen Nigerian patients with probable Reiter’s syndrome was characteristic of the condition. The incidence of ocular and cutaneous involvement was, however, slightly less than the incidence recorded in European patients with the disease. None of the
seventeen patients had radiological evidence of sacroiliitis, an observation of interest in relation to the rarity of ankylosing spondylitis in this community. However, only three of the patients had had their disease for over 5 years and it has been shown that in European patients with the condition the development of sacroiliitis is closely related to duration of disease (Oates and Young, 1959).

Post-dysenteric Reiter's syndrome was not seen at Ibadan, supporting the view of Hall in Kenya (Hall, 1966) and workers at Dakar (Payet, Pène, Bernou, and Frament, 1965) that this condition is uncommon in tropical Africa. This finding is surprising in view of the high prevalence rate of bacillary, amoebic, and viral dysentry in tropical Africa, all of which have been shown to precipitate the condition in countries in the northern part of the continent (Roumagnac, 1960).

Acute rheumatic fever accounted for only a small proportion of our cases of polyarthritis. In contrast, Hall (1966) found that acute rheumatic fever was the commonest cause of polyarthritis in patients presenting at hospital in Nakuru, Kenya. Nakuru, situated in the highlands of Kenya, has a climate different from much of the rest of tropical Africa. It thus seems likely that marked regional variations in the prevalence of acute rheumatic fever will be found throughout the many ecologically different regions of the continent.

The clinical features of Nigerian children with acute rheumatic fever closely resembled those described in Caucasian series, but nodules were found less frequently than would have been expected in a comparable series of European patients with the condition. The infrequent occurrence of nodules in established cases of acute rheumatic fever has been noted in other tropical areas, including Northern Nigeria (Beet, 1956), India (Roy, Bhatia, Lazar, and Ramalingaswami, 1953), and Jamaica (Back and DePass, 1964).

Four of the seventeen patients traced were found to have developed established mitral stenosis at follow-up examination a few years after their initial episode of acute rheumatic fever. This phenomenon has been noted in India (Cherian, Vyttilingam, Sukumar, and Gopinath, 1964), Jamaica (Back and DePass, 1964), and in several countries in the Middle East, suggesting that the factors responsible for the rapid development of stenosis are related to the conditions prevailing in the developing countries rather than to climatic or racial factors. Inadequate treatment of the initial attack of acute rheumatic fever may contribute to the aetiology of this condition, but it seems unlikely that this is the sole cause. Beet (1956) has suggested that the phenomenon is related to the increased tendency of the Negro to form keloids. Variations in the virulence of the streptococcus and in the immunological response of the host are further possibilities that have yet to be explored. It is likely that this process of accelerated stenosis is responsible for the deaths of many children in the developing countries where facilities for cardiac surgery are rarely available.

Infective monoarthritis is seen frequently at UCH, Ibadan, but only a small number of cases of septic polyarthritis were encountered. In temperate climates most patients developing septic arthritis have some predisposing cause (Kellgren, Ball, Fairbrother, and Barnes, 1958; Argen, 1964), but only three of the twenty Nigerian patients studied had a possible predisposing factor. Although the association between sickle cell disease and salmonella infection of bones and joints was noted in a number of patients with monoarthritis the two patients with salmonella polyarthritis were found to have genotype AS. Argen, Wilson, and Wood (1966) noted the persistence of synovial thickening in patients with pneumococcal polyarthritis after the infection had been cured. They attributed the synovial thickening to recurrent intra-articular antibiotic injections. Persistent synovial thickening was noted in two Nigerian patients 1 and 2 years after successful treatment of acute septic arthritis, neither of the patients having received local antibiotic injections. It is possible that some other form of joint disease had preceded the infective episode but both patients denied any previous joint swelling.

Bone and joint tuberculosis are still seen frequently in Western Nigeria but few patients were seen with tuberculous involvement of more than one joint. Bilateral sacro-iliitis was the commonest form of multiple joint involvement encountered. Differentiation from ankylosing spondylitis was difficult in these patients for it has been shown that only one half of patients with tuberculous sacro-iliitis have a tuberculous focus elsewhere (Strange, 1963). In countries where bone and joint tuberculosis are still seen frequently open biopsy or a therapeutic trial of anti-tuberculous chemotherapy are probably advisable in all patients presenting with bilateral sacro-iliitis without any other features of either tuberculosis or ankylosing spondylitis.

The possibility of an association between polyarthritis and tuberculosis, 'tuberculous rheumatism' received a great deal of attention at the end of the 19th and the beginning of the 20th century (Brav and Hench, 1934), but has aroused little interest more recently. However occasional reports of an association of polyarthritis with tuberculosis have continued to appear (Gonçalves, 1967; Wilkinson, 1967). A recent report from China (Ku Fu-Sheng, Li Ch'ing-lang, Shen Lu-hua, and Hsing Shu, 1966) describes a series of 52 patients with tuberculosis who developed a condition resembling acute
rheumatic fever which appeared to be directly related to extra-articular tuberculous disease.

Three patients in the present series presented with an acute polyarthritis associated with proven tuberculosis. None had sarcoidosis. In each case the joint signs resolved completely soon after starting antituberculous therapy and it seems unlikely that direct tuberculous involvement of the synovium of each affected joint had occurred. Polyarthritis may occur in association with erythema nodosum and the latter may be associated with primary tuberculosis. It thus seems possible that an allergic form of polyarthritis may occur early in the course of primary tuberculosis without necessarily being associated with skin lesions.

Gout was found to be an uncommon cause of polyarthritis among our patients, confirming the view that this condition is uncommon in much of tropical Africa (Trowell, 1960). The concept of gout as a disease of the rich alone no longer applies in the affluent societies of the developed countries. It was therefore interesting to find that most of the Nigerian patients with gout came from the professional class which comprises only a very small proportion of the local community. Many of the cases of gout reported from other tropical African countries (see Greenwood, 1969a) have also come from the upper class. The relative importance of genetic and environmental factors in the production of clinical gout is still not established. The rapidly changing environment of the developing countries makes them ideal sites for studies of the influence of environment in the production of this disease.

Ankylosing spondylitis is an uncommon condition in Western Nigeria and only three such patients were admitted to UCH, Ibadan, during a 10-year period. Ankylosing spondylitis appears to be uncommon in some other parts of tropical Africa (Forbes, 1960; Davies and Vaizey, 1961), but Palmer (1961) reported the occurrence of a number of cases in Southern Rhodesia. The importance of genetic factors in the aetiology of the condition has been established and these might account for its low incidence among the inhabitants of parts of tropical Africa.

Systemic collagen diseases are rarely seen at UCH, Ibadan, and possible reasons for this finding have been discussed (Greenwood, 1968). A single case of polyarthritis associated with systemic lupus erythematosus was seen, but not a single case proven of polyarteritis nodosum was encountered.

Haemophilia appears to be a rare condition in West Africa and only one case of haemophiliac arthropathy has been seen at UCH, Ibadan. Haemoglobinopathies are encountered frequently in Western Nigeria. Bone infarctions are common in patients with sickle cell disease and these may be associated with joint effusions. These children are followed in a special clinic and were not included in the present study. A case of haemoglobin SC disease presenting as polyarthritis in adult life was however encountered. X rays of the affected joints showed aseptic bone necrosis, the characteristic lesion of the condition (Golding, MacIver, and Went, 1959).

Psoriasis is seen occasionally in Africans but is much rarer in Nigerians than in Europeans (Clarke, 1959). It was therefore not surprising that not a single case of psoriatic arthropathy was encountered. Ulcerative colitis is also an uncommon condition in this population (Greenwood, 1968), and no examples of ulcerative colitis and associated arthritis were seen. Although common in American Negroes, sarcoidosis is seen infrequently at UCH, Ibadan, and only one doubtful case of sarcoid polyarthritis was encountered.

In five patients in whom polyarthritis was seen in association with a rash and signs of visceral involvement, no satisfactory diagnosis could be established in spite of intensive laboratory investigation. As further studies are made of the pattern of polyarthritis in tropical areas it seems possible that a number of new conditions will be found with an aetiology related to the tropical environment.

Summary

Some of the findings in patients presenting at UCH, Ibadan, with forms of polyarthritis other than rheumatoid arthritis and Still's disease are described. Cases of polyarthritis associated with disease of the urogenital tract were seen frequently. Differentiation of gonococcal polyarthritis from Reiter's syndrome often proved extremely difficult in these patients. Chronic valvular disease was seen to develop with remarkable rapidity in children with acute rheumatic fever. Several cases of septic polyarthritis and tuberculous polyarthritis were seen. Ankylosing spondylitis, gout, and the systemic connective tissue diseases were found to be uncommon. Polyarthritis in association with psoriasis and ulcerative colitis was not encountered.

I should like to thank the staff of University College Hospital, Ibadan, for allowing me to study patients with polyarthritis under their care, and the staff of the M.R.C. Rheumatism Research Unit, Taplow, for their help in the preparation of this paper. Mrs. C. R. O. Barlow helped me greatly in tracing patients to their homes. Dr. J. T. Scott provided continuous encouragement throughout the course of this study.

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References

ARGEN, R. J. (1964) *N. Y. St. J. Med.*, 64, 2573 (Suppurative pneunococcic arthritis).


GONÇALVES, W. G. (1967) *Brasil-méd.*, 81, 74 (Reumatismo de Poncet e outras manifestações articulares associadas a tuberculose).


OSOBA, A. O. (1968) Personal communication.


La polyarthritis en Nigérie Occidentale

III. D’autres formes de polyarthritis

Quelques-unes des observations chez les malades visitant l’University College Hospital à Ibadan, et atteints d’autres formes de polyarthritis que l’arthrite rhumatoïde et la maladie de Still ont été décrites. Les cas de polyarthritis associée aux maladies de voies urogénitales ont été vus fréquemment. La différenciation entre la polyarthritis biennorragique du syndrome de Reiter s’avère souvent comme extrêmement difficile chez ces malades. On a vu que les maladies valvulaires chroniques se développaient avec une rapidité remarquable chez les enfants atteints de fièvre rhumatismale aiguë. Plusieurs cas de polyarthritis septique et de polyarthritis tuberculeuse ont été vus. La spondylite ankylosante, la goutte, et les maladies généralisées du tissu conjonctif n’étaient pas communes. La polyarthritis associée au psoriasis et à la rectocolite hémorragique n’a pas été rencontrée.

Poliarthritis in Nigeria Occidental

III. Otras formas de poliarthritis

Se describen algunas de las observaciones hechas en pacientes del University College Hospital, Ibadan, que padecían otras formas de poliarthritis, aparte de la poliarthritis reumatoide y la enfermedad de Still. Eran frecuentes los casos de poliarthritis asociada con enfermedades del tracto urogenital. A menudo resultó sumamente difícil distinguir entre la poliarthritis causada por gonococos y el síndrome de Reiter, en estos pacientes. Se observó que la enfermedad valvular crónica se desarrollaba con extraordinaria rapidez en niños con fiebre reumática aguda. Había varios casos de poliarthritis séptica y poliarthritis tuberculosa. Se descubrió que eran poco comunes la espondilitis anquilosante, la gota y las enfermedades conectivas sistémicas. No se encontró poliarthritis asociada con soriásis y colitis ulcerativa.
Polyarthritis in Western Nigeria.
3. Other forms of polyarthritis.

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