Clinical Problems

Benign Rheumatoid Arthritis of The Aged

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Summary

A severe type of rheumatoid arthritis which is seen in 25% of cases that present with the disease after the age of 60 is a self-limiting illness. It can be well controlled during the acute severe phase and has a good prognosis. This paper describes 29 patients with this pattern of disease who were separated from a larger group of 110 elderly onset cases.

Introduction

The clinical pattern of rheumatoid arthritis varies widely in course and prognosis, and it is influenced by sex, rapidity of onset, and the presence of rheumatoid factor. Age is also of signifiance, and when onset occurs before the age of 16 years the difference in clinical presentation is recognized by its separate classification as Still's disease. Alterations in the pattern of disease in old age are not so well recognized in the literature.

We studied 110 cases of rheumatoid arthritis beginning after the age of 60. Most cases (74%) followed a course indistinguishable from rheumatoid arthritis beginning at a younger age. There was, however, a small subgroup (26%) characterized by an acute onset and subsequent full recovery. The purpose of this paper is to review this subgroup.

The Empire Rheumatism Council[1] found the mean age of onset of rheumatoid arthritis to be 42 years in men and 41 in women. Almost all authorities agree that the peak age of onset is in the 3rd or 4th decade. Several surveys have been conducted to determine the age of onset, and in every case the incidence of rheumatoid arthritis in the 60 or older age group was 10% of the total rheumatoid population.[2-7]

The first reference to rheumatoid arthritis in the elderly appeared in 1941 when Schnell[8] reported that they more often had large joint involvement and a higher E.S.R. Kinsella[9] and Porsmann[2] reported a distinct clinical subgroup among elderly patients who developed rheumatoid arthritis. This had the following characteristics: acute onset described as "stormy"; course of rapid fluctuations; more large joint involvement; good prognosis with remission usually in a year; and a predominance of males. This disorder was called benign rheumatoid arthritis of the aged. Subsequently six studies, mainly in the European literature, confirmed these observations,[7 10-14] and showed a wide variation in the incidence of this self-limiting process, with an average of 29%. Men are more commonly affected in this group. The findings are summarized in the table. The problem in comparing these figures is that not all the patients were 60 years of age or older, nor were they all seropositive. Our series includes only seropositive patients.

Results of Six Studies on Patients with Benign Rheumatoid Arthritis of the Aged

Series	Age of Patients (Years)	No. of Patients	No. with Positive Rheumatoid Factor Tests	Acute Onset	Sex Ratio M : F
Oka and Kytila[10] ..	60–76	24	N.D.	8 (33%)	1 : 11
Moesmann[11] ..	50+	85	61	56 (64%)	1 : 1·3
Adler[7]	55+	20	19	0	1 : 2·3
Ehrlich *et al.*[12] ..	60–84	43	18	8 (19%)	1 : 3
Brown and Sones[13]	65–90	156	13 (29 tested)	41 (26%)	1 : 1
Evers[14]	65+	41	0	"Common"	1 : 1·4

Present Series

In a group of 110 patients with rheumatoid arthritis starting after the age of 60, 29 were men and 81 women. Their ages ranged from 60 to 86 years. All satisfied the criteria laid down by the American Rheumatism Association[15] and were definable as either classic or definite cases. Rheumatoid factor was present in the serum of all. Other diseases causing polyarthritis were excluded. *X*-ray findings were graded as follows: grade 1, periarticular osteoporosis and soft-tissue swelling; grade 2, early juxta-articular erosions; grade 3, moderate erosive changes with some joint space narrowing; and grade 4, severe erosions, loss of joint space, subluxation, or ankylosis.

In 81 cases (74%) the features were not noticeably different clinically from those seen in younger patients. There was, however, a second group of 29 cases (26%) with a disease pattern seen less often in younger patients. In this group the onset was often sudden, the patient having gone to bed well and awoken next morning with polyarthritis. A severe constitutional illness was present, with anorexia, weight loss, malaise, and often depression. The E.S.R. was always raised, anaemia was present, and the serum proteins showed a low albumin and a diffuse increase in gammaglobulins. Serum iron and serum iron-binding capacity were usually low. After a time varying up to 18 months the disease was inactive and normal function was restored.

The 29 patients (15 males, 14 females) were aged 60 to 86 years; 13 were in the 7th decade, 14 in the 8th, and 2 in the 9th. The onset was almost invariably dramatic, a typical story being that the patient awoke one morning incapacitated by joint pains and stiffness. In only two cases was the onset over a period of a few days, the rest being seen by their doctor on the first day. Most were admitted to hospital within a week. The onset followed injury in three cases, "a virus infection" in two, and immunization in one.

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Any joint may be involved at the onset. The disease was polyarticular at onset in five cases, and in one case migratory type of joint pain was experienced. In contrast to the onset in younger patients proximal joints such as the neck and shoulder (14 cases) or large joints such as the knee (8 cases) were frequently involved. In six cases the disease began with pain and stiffness of the neck, shoulders, and buttocks, and the initial diagnosis was polymyalgia rheumatica. All six later developed typical rheumatoid arthritis. A cyclical course was common, with short bursts of activity followed by remission. The duration of the illness varied from 3 to 18 months (mean 8 months) before complete recovery.

All patients were very ill, with anorexia, weight loss up to 4 st (25·4 kg), depression, and malaise. Night sweats and fever were occasionally reported. Morning stiffness (lasting up to five hours) was a feature in all cases. Two patients suffered severe myalgia when their disease was active.

INVESTIGATIONS

Anaemia was common, the haemoglobin ranging from 7·1 to 13·9 g/100 ml, with a mean of 11·4 g in males and 10·6 g in females. This contrasts with other series in which anaemia was found to be uncommon in this age group. A moderate degree of leucocytosis was present in five cases, and in one a chronic lymphatic leukaemia had been diagnosed five years earlier. The E.S.R. (Westergren) ranged from 32 to 136 mm in one hour, with a mean of 95 mm in males and 75 mm in females. In 12 cases (10 males) it was greater than 100 mm in one hour.

Serum iron and the percentage iron saturation were invariably low when tested. Serum albumin was reduced in most cases, and in no case was this explained by a renal loss. A diffuse increase in gammaglobulins—up to 4 g—was often present.

Positive latex tests were graded 1 to 3. All patients gave a positive reading, the majority being 3+. The Rose-Waaler test when performed was positive in titres varying from 1/32 to 1/5,120.

Periarticular osteoporosis was present radiographically in all cases and early erosive changes were seen in seven. The paucity of erosive changes was attributed to the short duration of the illness. Chest *x*-ray examination was done in all cases.

OTHER DISEASE PROCESSES

Intercurrent diseases included coronary heart disease, hypertension, duodenal ulcer, stroke, diverticulitis, pernicious anaemia, and chronic lymphatic leukaemia.

MANAGEMENT

All patients required bed rest, mainly in hospital, for up to five weeks. Splints were applied to inflamed joints. The basic medication was aspirin in the maximum tolerated dose (usually 4 g/day). Ibuprofen or indomethacin was added when required. Indomethacin, usually given as a rectal suppository, gave good relief from the severe morning stiffness.

Gold.—Sodium aurothiomalate injection (Myocrisin) was given in two cases, uncontrolled by salicylates. Twenty weekly injections of 50 mg were given with control of synovitis. There has been speculation whether Myocrisin could be tolerated in this age group, but no untoward reaction was noticed.

Corticosteroids.—The decision to use corticosteroids is difficult in these patients since they have severe systemic illness. In most cases simpler agents sufficed, but in 10 prednisone was used. The dosage used to help control symptoms was usually 5-10 mg daily. In one case 15 mg/day and in another 20 mg/day was needed before reducing to the maintenance dose of 7·5 mg/day. In all cases steroids were ultimately discontinued.

Discussion

Most cases of rheumatoid arthritis beginning in patients over the age of 60 conform to the pattern that one expects in younger age groups. In 26% of the cases in this series, however, a pattern was seen with distinctive features. This has been referred to as the benign rheumatoid arthritis of the aged. A similar onset followed by remission may be found in all age groups but its incidence is greater in the elderly. This is of importance in management.

In some patients the disease pattern was very similar to that seen in polymyalgia rheumatica. Indeed, some of these patients started with an illness indistinguishable from the latter. This may reflect the fact that polymyalgia rheumatica is at times the initial presentation of rheumatoid arthritis, or that there is a clinical overlap between the two diseases of constitutional illness and morning stiffness. At times it is very difficult initially to separate acute rheumatoid arthritis in the elderly from polymyalgia rheumatica. Only the subsequent clinical course can differentiate them. It is debatable whether to use corticosteroids, which are important in the early management of polymyalgia rheumatica but undesirable (although sometimes necessary) in acute rheumatoid arthritis. Steroids are sometimes required in cases of benign rheumatoid arthritis of the aged with severe constitutional illness, but most settle well without them.

It has long been realized that one of the most favourable prognostic patterns of rheumatoid arthritis is this acute type of onset,[16 17] with admission to hospital within the first year from the onset of the disease. The acute onset, severe form of rheumatoid arthritis seen in these elderly people is also seen, albeit much less often, in the general population of rheumatoid arthritics. In the present series this type of presentation was eventually followed by complete remission.

Numerous changes have been noted in the immunological responses of ageing experimental animals and in ageing man. Serum gammaglobulin levels are increased in the elderly[18] but immune responses to extrinsic antigens are decreased. Reduction in the number of antibody producing cells observed in C57BL mice is thought to be attributable to a reduction in the number of antigen sensitive cells.[19] Despite this, response to intrinsic antigens is increased.[20 21] This provides a partial explanation for the increased incidence of antibodies against aggregated human gammaglobulin in people over the age of 65[22] and also for the increasing incidence of autoimmune disease that occurs in some strains of mice as they grow older.

One feature of ageing seems to be a breakdown of lysosomal membranes with release of substances which are damaging to DNA and to the "machinery" of protein synthesis and therefore antibody manufacture.[23] The possibility that ageing is itself an expression of autoimmune disease was advanced by Burnet.[24] Possibly further study of this group of patients with benign rheumatoid arthritis of the aged will show some immunological differences from their peers.

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Therapeutic Conferences

Gout

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DR. J. C. PETRIE: The commonest clinical presentation of gout is the acute illness, as chronic tophaceous gout is now relatively uncommon. Dr. Bain, what are the important points in the clinical diagnosis?

DR. L. S. BAIN: The outstanding features are the extreme joint tenderness, the character of the joint pain, and the appearance of the overlying skin.

The tenderness may be such that the patients cannot even tolerate the weight of bed clothes on the affected joint. The pain may be quite agonizing and analgesics such as pethidine or dihydrocodeine may be required as well as the conventional drugs prescribed for the acute case. In the classical presentation the initial symptoms involve the first metatarsophalangeal joint. This is the first joint to be attacked in about 60% of cases, but other joints such as ankles, knees, wrists, fingers, and elbows may be involved in roughly that order of frequency. Some patients present with a picture suggestive of "cellulitis" involving either the whole foot or hand —not just a joint—or the skin may be dusky red, dry, and sometimes rather scaly.

The patient may suggest that the symptoms are related to minor injury, which reinforces the impression of infection, and the family doctor may often prescribe an antibiotic, with—not surprisingly—very little success.

DR. R. A. WOOD: Minor joint trauma may be accompanied by a polymorph response and as polymorphs are involved in the inflammatory mechanism of gout, injury could be a genuine provocative feature.

Many sufferers from gout synthesize uric acid more actively and excrete it less effectively than normal people. It helps to visualize the body as a urate pool whose level is influenced by synthesis and excretion of uric acid.

STUDENT: What investigations should the doctor carry out to establish the diagnosis of acute gout?

DR. BAIN: The diagnosis should be supported by finding a raised serum-uric-acid level (> 6 mg/100 ml in men; > 5 mg/ 100 ml in women). However, if he is confident of the diagnosis on clinical grounds, the doctor may be justified in embarking on a therapeutic trial with the drug of his choice before the report on the uric acid level is available.

DR. PETRIE: Gout may affect joints, tissues, and the kidney; in addition many of the drugs used in treatment have haematological side effects. Should general practitioners refer all patients with gout to specialist clinics?

DR. BAIN: This is desirable but not essential, and indeed many general practitioners treat their own patients extremely efficiently. Nevertheless, some investigations are helpful in deciding about management. Renal function should be assessed during the early stages and in patients on long-term therapy regular blood counts are required. There is a myth about the value of radiological examination in the early stages of acute gout. The findings are seldom diagnostic and there may well be severe symptoms without radiological signs. This is in contrast to chronic tophaceous gout, where radiological examination is often helpful.

STUDENT: In making the diagnosis is it necessary to detect monosodium urate crystals in the affected joint?

DR. BAIN: Ideally this is the correct procedure but it is not always adopted in clinical practice. However, if there is some doubt about the precise diagnosis—for example, if the symptoms do not settle after 48-72 hours on specific therapy—then the joint should be aspirated. The identification of monosodium urate crystals in the synovial fluid establishes the diagnosis conclusively. On the other hand, in pseudo-gout, for example, calcium pyrophosphate crystals are found and "crystal synovitis" is now well recognized.

Drug of Choice in Acute Attack

DR. PETRIE: Phenylbutazone, indomethacin, and colchicine are all used for the immediate symptomatic relief of acute gout. Which is the drug of first choice?

DR. BAIN: Most rheumatologists prefer phenylbutazone, though indomethacin is also widely used. Colchicine is now less popular because of its well-known toxic effects.

STUDENT: How do these three agents work?

DR. WOOD: Drugs which are effective in acute gout have important anti-inflammatory effects, but interestingly enough colchicine is relatively ineffective in other circumstances. Polymorph motility, which colchicine inhibits, is probably important in the pathogenesis of acute gouty inflammation, and colchicine works by an effect on the sol-gel status of motile cells. This is similar to its effect in higher doses on the sol-gel systems in mitotic spindles—which is why it is used in chromosome studies.

Appointments of Speakers
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