FIRST SESSION

Rheumatology in general practice

OPENING REMARKS

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I WOULD like to thank Geigy (U.K.) Ltd., Pharmaceuticals Division for giving us the opportunity as a Faculty to hold this symposium. The company has been generous and their staff have worked particularly hard to make it a success. We are also deeply grateful to our speakers for giving up their Sunday in order to make it a success.

Rheumatic disorders in general practice: incidence and aetiology

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AS introducer I have really no need to stress to this audience that rheumatic complaints are both common and disabling, but I should start by introducing a factual note and giving you the actual figures from a population survey done in Lancashire by Lawrence and Kellgren. This showed a great increase in rheumatic complaints with advancing years from ten per cent in the age group 20–29 up to 40 per cent in those over 40 years. Official statistics show that rheumatic complaints are foremost in causing loss of productivity; if we could make a productivity agreement to decrease rheumatic disease this would greatly augment our national income, although perhaps not our personal rheumatological incomes. General practitioners know this well, but in hospitals and in the teaching of medical students this has not been adequately stressed.

If you look at the leading causes of disease in middle age you will find that rheumatism occurs high up on the list in social surveys in general practice and as an incapacitator from work in both men and women, but that as a cause of admission to hospital it comes far down on the list and rheumatic disease of any sort is seldom mentioned on a death certificate.

Knowledge about the rheumatic diseases has been late in developing and even now we are still separating out different entities, as has been done since the time of Sydenham onwards, so that now the latest classification of the rheumatic diseases (Blumberg *et al.*, 1964) includes 83 separate disorders, some of which are developmental, some traumatic, some degenerative or metabolic, some infectious and some neurological or even psychological. One of the biggest groups of inflammatory arthritis is one we know little about, rheumatoid arthritis and the connective tissue disorders. Degenerative disease we all know occurs with age and is primarily due to cartilage wear and tear. Gout is uncommon,

occurring in 0.2 per cent of the population, and ankylosing spondylitis is equally uncommon, with about the same prevalence. It is rheumatoid arthritis at about two per cent of the adult population and the degenerative diseases which are the most important from every point of view, and it is estimated that there are probably nearly two million cases of rheumatoid arthritis in this country. Few of these reach hospital, and indeed in a population survey, only 81 per cent of rheumatoid men and only 62 per cent of rheumatoid women had seen a doctor. Only 30 per cent had been off work for three months or more.

Rheumatoid arthritis, therefore, is the really big problem. What do we know about it? It may appear in children of six months of age or in old people of 70 or 80 and yet it increases steadily with age and is at least twice as common in women as in men. It is essentially a disease of moving parts, of joints and of the synovial membrane, invading cartilage and bone only secondarily. The synovial lesions are characterized by proliferation and the appearance in the tissue of enormous numbers of lymphocytes and plasma cells making gamma globulin. It is a chronic disease requiring movement to keep it going; it is not seen, for instance, in the paralyzed side of people with hemiplegia who develop rheumatoid arthritis. Many hypotheses have been put forward about its nature. Originally, before the time of Pasteur, it was thought to be a metabolic disease, but it is not hereditary in the ordinary sense or even familial although in childhood disease we have seen two pairs of monozygotic twins both affected out of five monozygous and five dizygous. Various metabolic faults and biochemical abnormalities have been described but they seem to be in no way specific to this disease. Nor are acquired alterations in metabolism, as for instance by somatic mutation, documented. We have no evidence that it is due to metabolic analogues or, as was said in a previous age, toxins, and we have no evidence either that it is a deficiency syndrome. Infection has come to the fore recently with the demonstration in some laboratories of diphtheroid bacteria in joints, but my feeling is that these are perhaps sapherophytic. What gave a new slant to research in this field, was the discovery in 1948 that about 50 per cent of cases showed a substance now called 'rheumatoid factor' in their serum. This appears to be an antibody, an auto-antibody to the body's own denatured gamma globulin. Most people think, therefore, that autoimmune mechanisms may play an important part in the disease, although few people think that rheumatoid factor itself is responsible for the joint lesions. There are many more people in the population with rheumatoid factor than with rheumatoid arthritis, and follow-up of these over many years has not shown that more than a few ever develop rheumatoid arthritis. Even considering those people with rheumatoid arthritis in the general population, the majority have no circulating rheumatoid factor. 'Rheumatoid factor' does, however, appear to be associated with nodule formation and with the arteritis seen typically in the fingers and leading sometimes to gangrene, and it may well be that rheumatoid factor in its complexed 22S form may contribute to this type of phenomenon.

Various autoimmune mechanisms have been explored. There may be a cross-reacting antibody present as occurs after streptococcal infection in rheumatic fever but in rheumatoid arthritis we do not know what the foreign antigen, or indeed, the body's own antigen, might be. Similarly for altered antigen (as in drug sensitivity), desequestrated antigens (as in thyroid disease), altered tolerance or disturbance of antibody formation. Another possibility is the alteration of self substance by virus infection.

Whatever the initiating antigen, however, there seems to be a vicious circle mechanism at work to maintain chronicity, with inflammation producing some antigen-like substance followed by antibody formation and complex ingestion and lysosomal enzyme release which in turn produces further release of antigen. Various people have made up hypotheses of this type for testing. However, it is fair to say today that we really have little idea how rheumatoid arthritis or similar diseases are generated or how they are

sustained: it may well be that the breakthrough will come, not through the study of the overt, hospital case but by the study of those very minor cases which occur often in a *forme fruste* in the general population or in general practice, including what Lawrence and Bennett (1960) have called 'benign polyarthritis'. General practitioners are in a favourable position to study such entities, (if they are entities) since benign polyarthritis has been estimated to occur in about five per cent of the population: these patients seldom appear in hospital clinics, except sometimes under special circumstances, as in the 'doctor's wife syndrome'.

REFERENCES

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Differential diagnosis of polyarthritis

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In general, but with some important exceptions, a patient with established rheumatoid arthritis, with deformities and nodules and so on, presents no great exercise in differential diagnosis. Problems in the diagnosis of early rheumatoid arthritis or what may appear to be early rheumatoid arthritis may come to us in the following circumstances. First, the patient may have pain in several joints which is due to a non-inflammatory process or his apparent joint pain may be referred from elsewhere. Second, the patient may have a true polyarthritis which is not rheumatoid arthritis, but whose true character is not diagnosed, either because diagnostic features in other organs or systems are inconspicuous or are slow in appearing. It is not a bad rule to be wary of diagnosing rheumatoid arthritis in the first six weeks of a polyarthritic illness. This is where a hospital doctor sometimes secures an easy success, because in the interval between the making of the outpatient appointment and the arrival of the patient, some diagnostic rash or some other feature develops. Third, the patient may have a polyarthritis complicating a familiar disease and not appreciated as an association. Fourth, the patient has, in fact, got rheumatoid arthritis but the disease is not presenting in the most familiar pattern. I will give you a few examples of these four difficulties.

First, the pain is not due to actual inflammatory disease of the joints. The patient may have the polyarticular type of osteoarthrosis and may have what seem to be spindle-shaped swellings of fingers, but one would be alerted by the presence of Heberden's nodes.

In such a case, you would get some help from radiographs which would show hypertrophy of the joint margins rather than erosive changes, and unless you were unlucky you would find negative serological tests. There are other causes of non-inflammatory polyarticular disease such as infiltration of juxta-articular bone in some cases of hypercholesterolaemia, myeloma or leukemia. Metabolic bone disease, notably osteomalacia causes skeletal pain which may seem to the patient to be joint pain. Occasional errors occur from neuropathy—such as diabetic neuropathy, where the pain may be thought to be articular, and the weakness the accompaniment of arthritis. Pain may be referred from elsewhere, notably the spine. There are occasional difficulties in scleroderma which can cause pain apparently in the joints, with limitation of movement,