

REITER'S DISEASE AND ANKYLOSING SPONDYLITIS

IS THERE A COMMON CAUSE?*

BY

J. K. OATES

From the Whitechapel Clinic, The London Hospital

Reiter's disease and ankylosing spondylitis are rheumatic disorders in which signs and symptoms of genital inflammatory disease are often found. The genital infection of course forms an integral part of the clinical picture in Reiter's disease and indeed, in the British Isles, the disease is probably correctly regarded as venereally acquired. In ankylosing spondylitis genital symptoms are rarely obtrusive, yet careful examination shows evidence of chronic genital infection in nearly all cases (Romanus, 1953; Mason, Murray, Oates, and Young, 1958). This work to date has been confined to male patients and the genital disease has usually been in the form of chronic non-specific prostatitis. As this condition is known to occur in apparently normal males, it is important to obtain some idea of the frequency of its occurrence in order to assess the significance of the findings in spondylitis.

Table I shows some estimates from the literature of the percentage of normal males with asymptomatic prostatitis. Several of these sources are of limited value as they do not state the criteria adopted in making the diagnosis.

TABLE I
INCIDENCE OF ASYMPTOMATIC PROSTATITIS
IN NORMAL MALES

Year	Author	Percentage of Normal Subjects with Asymptomatic Prostatitis
1921	Pelouze	35
1929	Visher	17
1953	Ambrose and Taylor	32
1958	Farrino	30
1955	Domeij, Giertz, Olhagen, and Romanus ..	33

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In Table II are shown the findings in three groups of patients examined at the London hospital, who can be considered to act as controls. All were subjected to prostatic massage and the diagnosis was made on the finding in the prostatic fluid of clumps of leucocytes or of more than ten polymorphonuclear leucocytes in a majority of 1/12 microscopic field. At least five fresh wet specimens were examined in each case. In the first group were 63 males with neither history nor symptoms of venereal disease or genital infection. The second group comprised 85 patients suffering from rheumatoid arthritis (previously reported in 1958), and the third group 25 male patients attending the Surgical Out-patient Department with complaints which were not related to the genito-urinary system.

TABLE II
INCIDENCE OF CHRONIC PROSTATITIS

Series	Number of Cases	Percentage with Chronic Prostatitis
Normal males (clinic)	63	20
Male patients with rheumatoid arthritis	85	33
Surgical out-patients	26	25
Total	174	26

In acute cases of Reiter's disease, urethritis is nearly always found if it is carefully looked for, and this search should always include examination before the first morning micturition in those cases in which the discharge is not obvious. It is perhaps not so widely known that many cases of Reiter's disease are left with a symptomless chronic prostatitis after apparent recovery. This condition is invariably found in chronic relapsing cases. For example, of

fourteen patients who had suffered from a single attack of arthritis and had been observed for an average period of 4.2 years, seven had prostatitis. Of 21 patients who had suffered more than one attack of arthritis and had been followed for an average period of 10 years, nineteen were found to have prostatitis.

Apart from genital infection there are the following similarities between the two diseases:

- (i) Incidence predominantly male.
- (ii) Presence of a familial predisposition in ankylosing spondylitis and possibly Reiter's disease.
- (iii) Both conditions can occur after intestinal disorders.
- (iv) Plantar fasciitis and tendinitis are common.
- (v) Recurrent attacks of anterior uveitis occur in 20 to 30 per cent.
- (vi) "Fluffy" periostitis of os calcis with spur formation.
- (vii) Sacro-iliitis in both conditions.
- (viii) Subcutaneous rheumatic nodules extremely rare.
- (ix) Rose-Waaler test negative.
- (x) Ankylosing spondylitis is occasionally a sequel of Reiter's disease.

(i) The predominant incidence of Reiter's disease in the male is very marked, perhaps only 10 per cent. of cases occurring in women. It is estimated that 80 per cent. of cases of spondylitis occur in males. It should be noted that the possibility of the misdiagnosis of Reiter's disease is probably high in the female sex (Oates and Csonka, 1959).

(ii) The existence of a familial trait in ankylosing spondylitis is well documented (Tegner and Lloyd, 1949; Mason, 1950; Graham and Uchida, 1957), and there is evidence to suggest that these factors may be of importance in patients with Reiter's disease (Trier, 1950; Fabregoule, 1951; Csonka, 1958; Morton, 1958).

(iii) Both syndromes are commonly reported on the Continent of Europe as occurring after intestinal disorders (Paronen, 1948; Marche, 1954). Spondylitis has recently been reported in association with intestinal disorders in Great Britain (Steinberg and Storey, 1957), but Reiter's disease in a similar context appears to be rare.

(iv) Plantar fasciitis and tendinitis occur frequently in both conditions but are perhaps especially common in Reiter's disease.

(v) Recurrent attacks of anterior uveitis occur in both diseases and are estimated to affect between 20

and 30 per cent. of each group (Dunham and Kautz, 1941; Paronen, 1948; Blumberg and Ragan, 1956; Wilkinson and Bywaters, 1958).

(vi) Periostitis of the os calcis and spur formation are seen in several rheumatic disorders, but the development of florid fluffy periosteal new bone appears to be seen only in Reiter's disease and in ankylosing spondylitis (Mason and others, 1959).

(vii) Sacro-iliitis is found in virtually all patients with ankylosing spondylitis and occurs in probably 50 per cent. of chronic or relapsing Reiter's disease (Marche, 1950; Oates, 1958; Mason and others, 1958). Radiographically these changes in the sacro-iliac joints are indistinguishable.

(viii) Subcutaneous nodules are of great rarity in ankylosing spondylitis, there being only two reported cases in the recent literature (Smythe, 1956; Wilkinson and Bywaters, 1958). They have not been reported in association with Reiter's disease.

(ix) The differential sheep cell agglutination test, with rare exceptions, is negative in both conditions.

(x) Marche (1950), Romanus (1953), and Ford (1953) have recorded the development of typical ankylosing spondylitis as a sequel to one or more attacks of Reiter's disease, but this does not appear to be common.

There are, of course, many differences between the two conditions:

- (a) Most patients with ankylosing spondylitis usually experience a gradual onset with severe backache and stiffness, and this onset is occasionally pre-pubertal, while in Reiter's disease the onset is usually acute and pre-pubertal cases in Great Britain are rare, although a case is reported by Corner (1950);
- (b) Peripheral arthritis is present in nearly all cases of Reiter's disease, but occurs in only 20 to 30 per cent. of cases of ankylosing spondylitis;
- (c) Spinal pain and stiffness are the rule in spondylitis but are uncommon in Reiter's disease;
- (d) Lesions of the skin and mucous membranes are rarely found in ankylosing spondylitis but are relatively common in Reiter's disease.

In typical cases of each illness there exists little possibility of diagnostic confusion as the clinical patterns and presentation are widely different. It is however becoming increasingly clear that there are formes frustes of Reiter's disease and ankylosing spondylitis which so closely resemble each other that it is difficult if not impossible to make an exact diagnosis (Marche, 1950; Sharp, 1957; Oates, 1958;

Catterall, 1958). In practice, the diagnosis depends to a very large extent on the special department to which the patient's symptoms cause him to be referred.

The group of patients who have suffered from an acute attack of Reiter's disease in the past, and years later have developed recurrent attacks of anterior uveitis, are well recognised. A small group of male patients, recently studied by Catterall (1958), who have no past history of arthritis (but may have suffered from an attack of urethritis), also develop attacks of iritis. On examination, prostatitis is found to be present and there may be radiographic evidence of sacro-iliitis and frequently of periostitis of the os calcis. Backache may be present, but is very mild, and spinal stiffness or rigidity is absent. It will be seen that these two groups of patients share many characteristics with the patients in whom iritis is the presenting symptom of ankylosing spondylitis (Birkbeck, Buckler, Mason, and Tegner, 1951). In some of the patients they described, backache and spinal stiffness were present when the iritis developed, though there were others in whom spinal symptoms were completely absent. It is clear that a precise diagnosis in individual cases in these three groups must be extremely difficult and that different observers may place the same patient in several different diagnostic categories. Thus, though at first sight to some observers the classical syndromes of ankylosing spondylitis and Reiter's disease may bear only a superficial resemblance, a close analysis, especially of the atypical forms of each condition, shows that many of the differences are often based upon arbitrary diagnostic criteria. For example, most clinicians would hesitate to diagnose ankylosing spondylitis unless backache, spinal stiffness, and bilateral sacro-iliitis were present. Similarly, the presence of genital symptoms in a patient with peripheral arthritis will usually lead to the diagnosis of Reiter's disease, whereas the absence of such symptoms is generally sufficient to ensure that such a diagnosis is not considered.

It has long been a favourite theory of the aetiology of ankylosing spondylitis that the disease develops as the result of an infective process. May it not be that this infective process may be a specific one, and that the specific agent may be identical with the causative agent of Reiter's disease? If this were the case, many of the differences between the two conditions would perhaps be accounted for by such factors as variations in genetic predisposition, tissue response, site and mode of infection, and perhaps most important of all the effect of repeated infection. With our existing knowledge, no conclusions are warranted, but this knowledge is sufficient to stimulate further intensive study of these troublesome and frequently incapacitating diseases.

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