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Profile of Reiter's disease in Saudi Arabia

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ABSTRACT

We studied the clinical features of cases of Reiter's disease as seen in two tertiary care hospitals in Riyadh, Saudi Arabia, over a period of 9 years. We gathered 34 cases, 29 (85%) males and 5 (15%) females (M:F ratio 5.8: 1). The mean age of onset was 29.4 (SD 6.4) years. Gastrointestinal and genitourinary infection were elicited in 24 patients (71%). Fever occurred in 6 patients (18%), fatigue in 13 (38%) and conjunctivitis in 13 (38%). Lower limb large joints were affected at presentation in 23 patients (68%), followed by combined presentation of peripheral joints and axial joints in 10 patients (30%). Sacroilitis was seen in 5 cases (15%). One patient had spondylitis, while enthesopathy was seen in 6 patients (18%). Bone scintigraphy was done in 14 patients, 11 of which were positive at peripheral joints, while 9 showed increased uptake at the sacroiliac joints. HLA B27 status was tested in 15 patients,4 (27%) of which were positive.

Introduction

Reiter's syndrome was first described in dysenteric patients and in 1916 (1). Since then, it has come to be a part of the broader term, reactive arthritis. Studies on the epidemiology of reactive arthritis and Reiter's disease faced some difficulties due to disagreements on definitions. Earlier estimates from hospital records at the Mayo Clinic in USA identified 18 cases over a period of 30 years (2). During the Algerian War of Independence 1,000 cases of post-dysenteric Reiter's were recorded among the one million French participants (3).

The genetic background, particularly HLA B27, as well as exposure to triggering microorganisms, have a major role in the development of disease. HLA B27 is more prevalent in the northern parts of the world, especially circumpolar regions, but becomes less common as one moves southward and is virtually absent among native South Americans, Central and Southern Africans and Australian aborigines (4).

In Saudi Arabia,the prevalence of HLA B27 is reportedly as low as 1.3% (5). In a study of the spectrum of rheumatic disease in Saudi hospitals, no cases of Reiter's disease were seen among Saudis despite its occurrence among non-Saudis (6).

In this study our aim was to describe the clinical profile of patients with Reiter's disease in Saudi Arabia.

Patients and methods

We retrospectively reviewed the medical charts of patients classified as having Reiter's syndrome using the computerized diagnostic index based on the International Classification of Diseases (9th revision, Clinical Modification). The cases of Reiter's were reviewed over a period of 9 years extending from 1989 to 1997 at two tertiary care hospitals with a combined bed capacity of 1000 beds. Attached to these hospitals are busy primary care clinics in Riyadh, Saudi Arabia. This city has a population of three million, 70% of which are Saudis. These two hospitals also act as referral centers for other parts of the country.

The diagnosis of Reiter's was based on the presence of seronegative arthritis of more than one months' duration, and one or more of the following: (i) urethritis/ cervicitis; (ii) acute diarrhoea; (iii) inflammatory eye disease; (iv) mucocutaneous disease (balanitis, oral ulceration or keratoderma) and the exclusion of ankylosing spondylitis, psoriatic arthropathy and other rheumatic diseases (7).

The following data were recorded: age, sex, nationality, ethnic group, duration of the disease and follow-up for remission and exacerbations, age at onset, clinical laboratory and radiological information. Constitutional, genitourinary, gastrointestinal, cardiac, pulmonary, neurological, dermatological and ophthalmological symptoms or signs were also recorded. The number and nature of the joints involved in the condition were noted. The functional class of patients was assessed in accordance with the American College of Rheumatology revised criteria for the classification of functional status in rheumatoid arthritis (8). The presence of infections or other diseases and treatment were also noted. The HLA

Table I. Comparison of demographic, clinical, laboratory and radiographic features in 69 American patients with Reiter's (ref. 12) and 34 patients from Riyadh, Saudi Arabia.

	Census reported by Arnett (12)	Patients from Riyadh, Saudi Arabia
Demographic features		
Age at onset		
Range	13-60 years	17-45 years
Mean	26 years	29.4 years
Median	24 years	28.5 years
Male	87%	85%
Preceding diarrhea	6%	6%
Clinical features		
Non-gonococcal urethritis	46%	67%
Conjunctivitis	31%	38%
Peripheral arthritis		
Upper limbs only	0	0
Lower limbs only	39%	38%
Both upper and lower limbs	61%	62%
Axial arthritis		
Sacroilitis (on X-ray)	17%	19%
Spondylitis (on X-ray)	7%	4%
Mucocutaneous lesions	43%	23%*
Oral ulcers	14%	37%
Fever (> 101°F)	32%	18%
Weight loss	19%	3%*
Laboratory findings		
Anaemia	39%	6%*
Elevated ESR	72%	73%
RF	0	0
HLA B27	81%	27%*

*As compared with Arnett's study $P < 0.05$ (z-test for proportion).

B27 status was recorded when available.

Simple descriptive statistics were used to summarize the quantitative data varables. For the qualitative variables, frequencies and proportions for each category were calculated. The one-sample z-test for proportions was used to compare our data with other reported data.

Results

A total of 34 patients were included in the study. The mean age at presentation was 34.6 (SD 8.1) years, with the mean age at onset of symptoms of disease as 29.4 (SD 6.4) years. The mean duration of the disease at the time of the study was 4.5 (SD 4.0) years. The mean duration of follow-up was 1.5 years (range 2 days - 7 years) and the mean duration before diagnosis was 2.2 years (range 2 days - 7 years).

There were 29 (85%) males and 5 (15%) females, giving a sex ratio of 5.81 to 1. Patients included Saudis 20 (59%), other Arabs 8 (23%) and non-Arabs 6 (18%). The presentation of the disease was acute in 18 (53%), and gradual in 16 (47%).

A positive family history for Reiter's syndrome was noted in 2 (6%) cases. Antecedent infections were recorded in 24 (71%) patients. Of these 5 (15%) were gastointestinal and 19 (56%) were genitourinary infections. During the disease fever occurred in 6 (18%), weight loss in 1 (3%), and fatigue in 13 (38%) patients. Morning stiffness lasting 30 or more minutes was noted in 8 (24%), skin rashes in 6 (18%), conjunctivitis in 13 (38%) patients, urethritis in 24 (71%). There was one case of prostatitis. Diarrhoea was documented in 7 cases (21%) and mouth ulcers in 2 (6%).

None of the patients had pulmonary complications, one (3%) had neurological symptoms in the form of headache, and 2 (6%) had a history of cardiac diseases (one atrial fibrillations and one mitral valve prolapse). Dysuria was seen in 5 (15%), frequency in 2 (6%), discharge in 11 (33%), dysuria and discharge in 2 (6%), and dysuria, frequency and discharge in 6 (18%) patients.

The large joints of the lower limbs only were affected in 13 (38%), while both the upper and lower limb joints were involved in 21 (62%) patients. The frequency of relapse in the 21 cases was once per year in 6 patients, twice per year in 4, and more than 3 times per year in 11 cases. The relapse related symptoms were genitourinary in 10, genitourinary and ocular in 2, and mouth ulcers in 2 cases, while 7 had none of these symptoms.

The following laboratory data were also obtained at presentation: mean hemoglobin 13.7 (SD 1.7) g/dl (normal range 13-18 g/dl), mean WBC count 8.8 (SD 3.0) x 109/L (normal range 4-11 x 10^9/L) and the mean ESR 38.6 mm (normal range 0-20 mm/hr). Antinuclear antibodies was positive in only one patient with a borderline titre of 1:40. However, all the patients were negative for rheumatoid factor and Brucella serology. Chlamydia antibodies were recorded in 14 patients, of whom 8 were positive with a mean titre of 1:50. Positive HLA B27 status was noted in 4 (27%) out of 15 cases studied in our group of patients.

Radiological data for the sacroiliac joints was available in 26 cases. Two patients showed bilateral sacroilitis, 3 had unilateral sacroilitis, and the remaining 21 showed no sacroilitis. Only one patient in the group was reported to have spondylitis. Peripheral joint x-rays showed changes in 7 cases, while 6 cases showed radiological evidence of enthesopathy. Bone scintigraphy was done in 14 patients, yielding increased uptake at the sacroiliac joint in 9 patients and increased uptake in the peripheral joints in 11. Six (18%) patients were fully functional, 24 (70%) had little impairment, while 4 (12%) had marked impairment.

Most of the patients (68%) used non-steroidal anti-inflammatory drugs intermittently while 32% used them continuously. Fifteen percent were treated in addition with sulfasalazine. One female patient was on oral corticosteroids, and another was taking intra-articular corticosteroid.

Discussion

Over a period of nine years, we managed to collect only 34 cases of Reiter's disease of which 20 were ethnic Saudis, suggesting the disease to be uncommon in Saudi Arabia. In a previous account of the spectrum of rheumatic diseases in Saudi Arabia, Rajapakse (6) found no cases of Reiter's disease among Saudis. The rarity of the disease in Saudi Arabia may be partly explained by the very low incidence of HLA B27 and partly by the lower prevalence of triggering microorganisms especially of the genitourinary tract due to the very conservative and religious nature of this community.

This low incidence of Reiter's syndrome contrasts with that found in circumpolar areas in which HLA B27 is very common in addition to triggering diarrhoeal illness (9-11). Comparison of our patients to American patients reported by Arnett (12) (Table I), showed no statistically significant differences in the patients' demographic features, conjunctivitis, urethritis, lower limb arthritis, axial arthritis, oral ulcers, fever, ESR elevation, or rheumatoid factor. However, statistically significant differences were seen in the presence of mucocutaneous lesions, in which our cases had a lower incidence than Arnett's patients (23% versus 43%). This may be explained partly by the lower incidence of HLA B27 in our population. Boyer *et al.* (13) has shown that HLA B27 is associated with increased disease severity and extraarticular manifestations. In Arnett's series, patients had a higher frequency of HLA B27 (81% versus 27%) and also more systemic features, namely anaemia (39% versus 6%) and weight loss (19% versus 3%).

In conclusion,Reiter's disease is rare in Saudi Arabia and is also less severe than in the West. This may reflect the rarity of HLA B27 in our community.

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