Clinical rheumatology, 1996, **15**, N° 3 287-289

Profile of Ankylosing Spondylitis in Saudi Arabia

A. AL-ARFAJ

Summary **This study describes the profile of ankylosing spondylitis as seen at the King Khalid University Hospital, Riyadh, Saudi Arabia over a period of 4 years. Fifteen cases were accumulated, eleven males and four females (M:F ratio 2.75:1). Thirteen patients were of Arab origin. The mean age of onset was 23.4 years, and all patients but one had a subacute onset. A positive family history was elicited in two patients (13%) and HLA B27 was positive in eight out of twelve patients (67%). Symmetrical radiographic sacroiilitis was present in all fifteen patients, radiographic spondylitis in eleven (73%), enthesitis in nine (60%) while peripheral joints were affected in five (33%). Conjunctivitis and uveitis were seen in 2 (13%) and 1 (7%) respectively. Most patients were in ARA functional Class I and II.**

Key words **Ankylosing Spondylitis, Arabs, Saudi Arabia**

INTRODUCTION

Ankylosing spondylitis is an inflammatory arthritis affecting principally the sacroiliac joints but the disease may extend to peripheral joints, spine and extraarticular sites (1). Early prevalence estimates were based on hospital records yielding a prevalence between 0.05% and 0.23% (2). Included in this is a report from Iraq with a prevalence of 0.2% (3). More representative population surveys have put the prevalence between 0.0% and 1.8% depending on the population studied (2). This variation in the prevalence of ankylosing spondylitis among different populations is partly a function of the difference in the rate of HLA B27 among those populations (2).

The clinical features of the disease and the male to female ratio showed some variation over the passage of time and among the different populations studied (3-6).

Rajapakse C.N. in his report on the spectrum of rheumatic disease in Saudi Arabia stated that "Ankylosing spondylitis is probably rare among Saudis" (7). In that report, no cases of ankylosing spondylitis were found among Saudis.

This report aims to describe the clinical pattern of ankylosing spondylitis seen in Saudi Arabia.

PATIENTS AND METHODS

The medical charts of patients diagnosed as ankylosing spondylitis between 1988 and 1991 at the King Khalid University Hospital were retrospectively reviewed. The latter is a 640-bed tertiary care hospital with adjacent primary care facilities located in Riyadh, Saudi Arabia. Riyadh itself has a population of around three million with another three million in the rest of the central province of Saudi Arabia served by Riyadh's four major hospitals. Saudis constitute 70% of this figure. The New York criteria were employed for the diagnosis of ankylosing spondylitis (8).

The following were recorded: age, sex, nationality, ethnic origin, duration of disease and follow-up, age at onset, clinical, laboratory and radiological information. The disease was taken as developing acutely (over days) or subacutely (over weeks). The course was described as either progressive or polycyclic if not continuous. Genitourinary, gastrointestinal symptoms infection, constitutional skin, eye, cardiac, pulmonary, neurological symptoms or signs were also collected from the medical records.

We also recorded the number and nature of joints involved at the time of the study. The functional stage (9), other diseases, treatment, laboratory and radiological investigations were also noted. The HLA B27 status was also obtained when possible. Simple descriptive statistics were used to summarize the quantitative variables of the sample date.

RESULTS

A total of fifteen patients satisfied the New York criteria for the diagnosis of ankylosing spondylitis. The mean age at the time of study was 35 years with a range of 22-57. Eleven of them were males (73%) and four females (27%) with M:F ratio of 2.75:1. The mean age at onset

From the Department of Medicine, King Khalid University Hospital, Saudi Arabia

was 23.4 ranging between 12-45. The average delay in diagnosis was 3.9 years for the whole group (median 3 years); however, the delay in diagnosis was longer in females (4.5 years) compared to 3.6 in males. There were 6 Saudis (40%), 7 other Arabs (3 Palestinians, 2 Sudanese, 1 Moroccan, 1 Yemeni) (47%) and 2 non-Arabs (Pakistanis) (13%). All patients, but one, had a subacute onset (94%). The disease had a polycyclic course in 8 (53%), progressive in 6 (40%) and one patient did not have sufficient follow-up.

A family history for ankylosing spondylitis was positive in only two patients (13%). No precipitating infection could be elicited. During the disease, fever occurred in only one patient (6.7%), weight loss in 4 (26.7%), fatigue in 8 patients (53.3%), stiffness of more than 30 minutes in 11 (73%), skin rashes in 2 (13%), conjunctivitis in 2 (13%) uveitis in 1 (7%). No cardiac or neurological complications were recorded. Urinalysis was abnormal in 5 (33%), urinary frequency in 5 (33%) and discharge in 1 (7%). The following laboratory data were also obtained at presentation, average haemoglobin of 13.7, average WBC of 8.7, mean ESR 38.3; antinuclear antibodies were positive in only one patient. However, rheumatoid factors and Brucella serology were negative in all patients. HLA B27 was done in twelve patients, and was positive in 8 of those (67%). Pulmonary function tests were done in six patients and the result was as follows: 4 were normal, 1 had a restrictive pattern and one had an obstructive pattern. Radiological findings were: symmetrical sacroiliitis in all 15 patients, with 4 patients having ankylosis, another 4 having definite signs of sacroiliitis and 7 patients having minimal sacroiliitis. Spondylitis was present radiologically in 11 patients (73%) enthesitis in nine (60%) and peripheral joints in 5 (33%) radiologically and/or clinically. The average relapse rate was 3 per year. Most patients took nonsteroidal anti-inflammatory drugs intermittently (80%) while only 20% took NSAIDs continuously. In addition, two patients were treated with sulfasalazin, and another two received intermittent courses of corticosteroids in the past. The outcome of the disease was good in most patients with full to near full function in 12 (80%), while 20% had moderate impairment. (classes I and II of ARA functional class for RA respectively).

The two non-Arab patients (Pakistanis) had a similar age of onset, were diagnosed after some years and had a functional capacity and radiological changes like those of the whole group.

DISCUSSION

Over a four-year period, only fifteen patients could be contacted, suggesting that the disease is uncommon in Saudi Arabia. The male to female ratio of 2.75:1 conforms to the more recently accepted ratio of 2.5-5:1 (4,10,11). However, it is lower than other hospital studies (3-8:1) and in particular, lower than the ratios found in Iraqis 8:1 and in Singaporean Chinese (3.2:1). (2,3,5)

The mean age of onset of 23.4 years was similar to that reported by others; however, it is lower than the 32 years reported in Zimbabwe (3,12,13). The average delay in diagnosis for the whole group was 3.86 years with a median of 3 years. This figure is lower than the six years reported by Calin A. et al. for cases diagnosed before 1974, but is slightly higher than his values (2 years) after 1974 (12). It is also shorter than the delay reported in Chinese patients (7.25 years) (5). Among the fifteen patients, only six were of Saudi origin suggesting an even lower prevalence of this disease among ethnic Saudis. A positive family history of ankylosing spondylitis of 13% was higher than that reported in Iraqis (7.5%) and Zimbabweans (0%). These figures may be explained in part by the low incidence of the HLA B27 in these populations (3,13).

Uveitis was seen in only one patient (7%) which is much lower than that reported in Caucasians but is consistent with the low incidence reported in Iraqis (9%), and Chinese (7.8%) ($P > 0.2$) Fisher exact test (1,3,5). However, it is higher than the zero incidence reported from Zimbabwe (13).

As recently described by Calin A. et al., fatigue was found to be a major symptom, occurring in 53% of our patients (14). Similarly, stiffness was rated high among our patients. The peripheral joints involvement (40%) was similar to that in the Caucasian and Iraqi (35%) patients but lower than in the Chinese (72%) (1,3,5). The laboratory data (Hb, WBC, ESR) were in agreement with that of the Iraqi study but our HLA B27 incidence of 8 out of 12 patients (67%) was lower than in Iraqis [21 out of 25(80%)]. This may be explained partly by the different genetic mix between our population and the Iraqis (3). It is, however, higher than that reported from Zimbabwe (0%) (13). The HLA B27 frequency among 558 Saudi transplant potential donors was investigated by Sheth RV, et al. and was shown to be 1.3% (15). This is lower than that reported for Iraqis (2.1%), Moroccans (3.6%) and lower than in all other individual Arab countries and other countries in the Middle East (15-17). These figures are certainly much lower than those from North American Indians and Caucasians (2). The low incidence of HLA B27 among Arabs, in general, and

Saudis, in particular, may have contributed to the rarity of ankylosing spondylitis in Saudi Arabia.

In agreement with other reports, most of our patients had full or near full function (3,13).

The objective of this study was to expose the pattern of ankylosing spondylitis in Saudi Arabia as seen at a University Hospital. Despite the limitation of such a study, the disease appears to be rare in our community and despite the bias of more severe cases being surveyed, the disease also showed a milder course with fewer complications and impairments.

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Received: 8 June 1995
Revision-accepted: 5 November 1995
Correspondence to: Dr. A. AL-ARFAJ
P. O. Box 34471
Riyadh 11468
SAUDI ARABIA