

LETTER TO THE EDITOR

THE PREVALENCE OF RHEUMATOID ARTHRITIS IN THE SOUTH OF JORDAN

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Received December 12, 2010 – Accepted October 26, 2011

The aim of this study is to evaluate the prevalence of rheumatoid arthritis in the south of Jordan. The study was carried out between January, 2005 and December, 2008; 2,220 adults aged between 16 and 75 years were evaluated for the presence of rheumatoid arthritis disease according to the American Rheumatism Association 1987 criteria. The results showed that the prevalence of rheumatoid arthritis was 0.36% in the general population; the prevalence in males was 0.34% and in females it was 0.39%. In conclusion, the prevalence of rheumatoid arthritis is extremely low in the south of Jordan with a slight female predominance. American Rheumatism Association criteria continued to be the most useful criteria for the diagnosis of rheumatoid arthritis.

Rheumatoid arthritis (RA) is one of the chronic diseases that affect the joints. It is characterized by inflammation of synovium inside the joints which in turn will lead to its destruction and disability. The prevalence of RA in the world is around 1% among the adult population (1) with slight geographical variations. It is more prevalent in developed countries than in developing ones (2). Mediterranean countries tend to have a low prevalence of the disease (3). The diagnosis of RA is mainly clinical depending on history and clinical examination, confirmed by laboratory investigation for rheumatoid factor and radiological findings of erosions and/or periarticular osteopenia. Many criteria have been invented for the diagnosis of RA, but the most widely used are the 1987 revised criteria of the American Rheumatism Association (4). RA is an autoimmune disease, and many correlated extra-articular manifestations are documented of which skin involvement is the commonest.

MATERIALS AND METHODS

This study was carried out between January, 2005 and December, 2008 in the southern part of Jordan. There are only two rheumatology clinics in the south of Jordan, one in Karak city and the other one in Tafilah city; so all patients from the southern part of Jordan complaining of any rheumatological disease will be referred to these clinics. A total of 2,220 adults aged between 16 and 75 years attending these rheumatology clinics were enrolled in this study. Detailed history was taken from all patients for the presence, pattern and duration of joint swelling, joint pain and morning stiffness. Blood samples were withdrawn from all patients to document the presence or absence of rheumatoid factor (RF). Radiological studies for the wrist and hand joints using normal x-rays were carried out to evaluate the presence or absence of joint erosions and/or periarticular osteopenia.

The American Rheumatism Association 1987 revised criteria for the diagnosis of RA were used and applied in evaluation of the history, clinical examination, laboratory

Key words: oral inflammation, periodontitis, systemic diseases

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0393-974X (2011)

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results and x-ray findings of all patients. The patient was diagnosed as having RA if at least 4 of the following were present:

1. morning stiffness in and around joints lasting at least 1 h;
2. arthritis of at least 3 joint areas documented by a physician;
3. symmetrical arthritis;
4. arthritis of the proximal interphalangeal, metacarpophalangeal or wrist joints;
5. rheumatoid nodules;
6. positive RF;
7. radiographic erosions and/or periarticular osteopenia in hand and/or wrist joints.

RESULTS

The mean age of all adults included in this study was 57.2 years. 1,185 of the subjects (53.4%) were males and 1,035 (46.6%) were females. After applying the American Rheumatism Association revised criteria to all subjects, only 8 patients (0.36%) were diagnosed as having RA. Of these, 4 were males and 4 were females representing 0.34% and 0.39% of the entire sex-related population group, respectively. All the 8 patients were over 45 years of age. The age and sex of these patients are summarized in Table I. Of these 8 patients diagnosed as having RA, 7 had positive RF; the results are shown in Table II. One male patient (12.5%) had rheumatoid nodules on the extensor surfaces of his

elbows, another female patient (12.5%) was found to have pyoderma gangrenosum ulcerative lesions on her legs.

DISCUSSION

This is the first study to be performed in the southern part of Jordan to elucidate the prevalence of RA among the adult population. Our study suggests the prevalence of RA in the south of Jordan to be 0.36% among adults. This result is considered to be low compared to other results in the world. For example, the prevalence was estimated to be 0.51% in Sweden (5) and 1.0% in Iraq (6). Even in Jordan, a similar study was conducted by our colleagues to evaluate the prevalence of RA in the northern part of Jordan revealed that it was around 0.48 % (7). However, some studies revealed results similar to that obtained in our study, for example in Oman (8). These variations in the prevalence of RA suggest that genetic factors as well as environmental factors, including dietary habits, play a major role in the occurrence of RA.

Regarding the prevalence of RA among males and females, most of the studies revealed that it is more prevalent in females, for example a two stage population survey in Brittany, France, revealed that the prevalence was 0.74% in females and 0.26% in males (9). In another study carried out in Italy, the prevalence was 0.51% in females and 0.13% in males (10). In the north of Jordan the result was also

Table I. Age and sex of patients diagnosed as having RA.

Age (years)	16-30	31-45	46-60	61-75	Total
Males	0	0	1	3	4
females	0	0	2	2	4
total	0	0	3	5	8

Table II. Number and age of patients in relation to RF.

Age (years)	16-30	31-45	46-60	61-75	Total
RF positive	0	0	2	5	7
RF negative	0	0	1	0	1

similar; it revealed a prevalence of 0.60% in females and 0.33% in males (7). In our study, the difference in prevalence between males and females was insignificant with only slight female predominance.

Skin manifestations specific to RA are numerous, the commonest of which are rheumatoid nodules. They present in up to 25% of RA patients (11), most commonly over bony prominences. Less common findings include vasculitic skin lesions, cutaneous granulomas, pyoderma gangrenosum (PG) and Sweet's syndrome (12). In our study, rheumatoid nodules were present in only one male patient with positive RF, representing 12.5% of patients with RA. This low percentage is attributed to the few numbers of RA patients found in this study. Another female patient was found to have small ulcerative lesions of PG on her legs, which responded well to local ulcer care and systemic steroids in addition to RA disease-modifying drugs.

In conclusion, the prevalence of RA is extremely low in the south of Jordan; it is about 0.36%, being slightly higher in females. American Rheumatism Association criteria continued to be the most useful criteria for the diagnosis of RA with high sensitivity and specificity. RF is a very useful test for screening populations for RA.

REFERENCES

1. Wood PHN, Badely EM. Epidemiology of individual rheumatic disorders. In textbook of rheumatic diseases. Scott JT, ed. Copeman's. 6th edition. Edinburgh: Churchill Livingstone, 1986; p.63-67.
2. Silman AJ, Ollier WO, Holligan S, et al. Absence of rheumatoid arthritis in a rural Nigerian population. *J Rheumatol* 1993; 20:618-22.
3. Boki KA, Panayi GS, Vaughan RW, Droses AA, Moutsopoulos HM, Lanchbury JS. HLA class II sequence polymorphism and susceptibility to rheumatoid arthritis in Greeks: HLA-DRb shared epitope hypothesis accounts for the disease in only a minority of Greek patients. *Arthritis Rheum* 1992; 35:749-55.
4. The American Rheumatism Association 1987 revised criteria for the classification of rheumatoid arthritis. *Arthritis Rheum* 1988; 31:315-24.
5. Simonsson M, Bergman S, Jacobsson LTH, Petesson IF, Svensson B. The prevalence of rheumatoid arthritis in Sweden. *Scand J Rheumatol* 1992; 28:340-43.
6. Al Kawi ZS, Alzawi AJ, Al Ajili FM, Al Wakili R. Rheumatoid arthritis in population samples in Iraq. *Ann Rheum Dis* 1978; 37:73-75.
7. Rizqallah A, Kareem R, Hussien D. Prevalence of rheumatoid arthritis in the northern part of Jordan . Accepted for publishing in *Pan Arab Medical Journal*.
8. Pountain G. Prevalence of rheumatoid arthritis in the Sultanate of Oman. *Br J Rheumatol* 1991; 30:24-28.
9. Saroux A, Guedes C, Allain J, et al. Prevalence of rheumatoid arthritis and spondylarthropathy in Brittany, France. *J Rheumatol* 1999; 26:2622-27.
10. Cimmino MA, Parisi M, Moggiana G, Mela GS, Accardo S. Prevalence of rheumatoid arthritis in Italy: the Chiavari study. *Ann Rheum Dis* 1998; 57: 315-18.
11. Kaye BP, Kaye RL, Bobrove A. Rheumatoid nodules. Review of the spectrum of associated conditions and proposal of a new classification, with a report of four seronegative cases. *Am J Med* 1984; 76:279-92.
12. Margo C, Crowson A. The spectrum of cutaneous lesions in rheumatoid arthritis: a clinical and pathological study of 43 patients. *J Cutan Pathol* 2003; 30:1-10.