The Expression of Rheumatoid Arthritis in Kuwaiti Patients in an Outpatient Hospital-Based Practice

I.H. Al-Salem, A.M. Al-Awadhi

Rheumatology Unit, Al-Amiri Hospital and Department of Medicine, Faculty of Medicine, Kuwait University, Kuwait

Key Words
Rheumatoid arthritis · Kuwaiti · Extra-articular · Erosive arthropathy · Tertiary care

Abstract
Objective: To describe the characteristic clinical, serologic and radiological features of rheumatoid arthritis (RA) in Kuwaiti patients in a tertiary outpatient hospital-based practice. Subjects and Methods: An outpatient hospital-based study on 100 consecutive consenting Kuwaiti patients with RA was done at the Rheumatology Unit, Al-Amiri Hospital, one of the main teaching hospitals in Kuwait. The study group included 11 men and 89 women. The duration of their disease ranged from 2 to 30 years with a mean duration of 10.7 (SD 7.5) years. The age at disease onset ranged from 21 to 71 years with a mean age of 39.1 (SD 11.2) years. Results: Joints most commonly involved in RA were metacarpophalangeal, wrist, knee, and proximal interphalangeal joints. Extra-articular manifestations were present in 24 patients; the most common was the sicca complex in 14 individuals. Rheumatoid factor seropositivity was found in 60 patients and erosive arthropathy in 42 patients. Conclusion: The findings indicate a low incidence of radiological erosive arthropathy in Kuwaiti patients. The sicca complex was the most common extra-articular manifestation of RA in these patients.

Introduction
Rheumatoid arthritis (RA) is a chronic inflammatory disorder with a worldwide distribution involving all racial and ethnic groups. However, variations in the clinical expression, severity and outcome of the disease among different ethnic groups have been reported. Prior to the use in the last 15 years of potent disease-modifying agents such as methotrexate, RA in Caucasians from North America or England was characterized as severe, destructive arthritis leading to marked functional disability with systemic involvement [1]. Reports from Mediterranean countries, however, point to a more favorable course. This includes Northern Italian [2] and Greek [3] patients who had less articular symptoms, fewer extra-articular manifestations and less severe radiological damage. Chinese patients have also been reported to have milder disease, with lower rates of severe functional impairment and radiological changes [4]. Malaysian patients were also
noted to have significant differences in articular and extra-articular manifestations of the disease when compared with British patients [5]. Other studies of Russians, Alaskans and Eskimos have also suggested a more favorable course with frequent absence of systemic manifestations [6]. Pakistani patients were also noted to have a lower frequency of rheumatoid nodules and fewer X-ray erosions in hands and feet than a matched British population in a report by Hameed and Gibson [7] in 1996.

Differences in disease expression could be attributed to genetic or environmental factors, or a combination thereof. Thus, studies of RA in different populations might prove significant as more genetic markers are evaluated in different ethnic groups. These investigations might have implications for management approaches to patients in different ethnic groups depending on the clinical expression of the disease and its severity in a particular population or ethnic group.

As the expression of RA in Kuwaiti patients had not been studied before, we aimed in this outpatient hospital-based study to gather information about the clinical, radiological and serological characteristics of the disease in Kuwait.

Subjects and Methods

One hundred consecutive consenting patients (89 females and 11 males) with RA were included in this study. All were seen in the Rheumatology Unit, Al-Amiri Hospital, Kuwait, one of the main teaching hospitals in Kuwait. This hospital provides secondary and tertiary care for patients of different socioeconomic levels with musculoskeletal complaints who lie within a catchment area that serves half of the population of Kuwait.

All of these patients, with the exception of 1 woman of Egyptian extraction, were Kuwaitis. All met the American College of Rheumatology criteria for the diagnosis of RA specified in 1987 [8]. The minimum duration of the disease for inclusion in our study was 2 years. All patients were interviewed. The clinical interview, which was conducted by the same investigator using identical protocols and assessment criteria, involved history taking and physical examination. All patients had posterior-anterior X-ray views of the chest and hands and wrists, and an anterior-posterior view of the feet, taken at the time of the study. The following information was recorded: age at disease onset, duration of the disease, joints involved, extra-articular features, anemia, seropositivity and radiological erosive changes. Different joints were considered to be affected by the disease if noted as such by the patients’ account at history taking or through evidence of involvement upon physical examination in the form of swelling, tenderness, or decreased range of movement. Joints were reported as involved if documented as such in patients’ records by a senior rheumatologist. We examined proximal interphalangeal, metacarpophalangeal, wrists, elbows, shoulders, temporomandibular, hips, knees, ankles and metatarsophalangeal joints. Extra-articular manifestations that were taken into account were subcutaneous rheumatoid nodules, the sicca complex, pulmonary complications in the form of effusions, nodules or fibrosis, cutaneous vasculitis, amyloidosis and Felty’s syndrome. Subcutaneous nodules were reported to be present if found on physical examination at the time of the interview for the study or had been documented in patients’ records in previous visits. Schirmer’s test was performed on all patients; wetting of the test strip of less than 5 mm in 5 min was considered a positive result. Patients with positive results were subjected to sialography or ultrasonography of the salivary glands to document the presence of sicca complex in them [10]. Patients with symptoms, signs and plain chest X-ray findings suggestive of pulmonary fibrosis had pulmonary CT scans for confirmation. Determination of the presence of pleurul effusions or pulmonary nodules was based mainly on plain chest X-ray findings. Renal biopsy was performed on patients with unexplained proteinuria to diagnose renal amyloidosis. Skin biopsy was performed on those with skin lesions suggestive of vasculitis. Splenomegaly and leukopenia were required as minimal criteria for the diagnosis of Felty’s syndrome [11].

The following laboratory test results were noted: urine analysis for protein; a complete hemogram and assay results for rheumatoid factor. For detection of rheumatoid factor, Arthri-Slide latex card test was used with a titer of 1:80 considered as a positive result.

Plain X-rays of the chest, hands, wrists and feet were reviewed. Blinded diagnoses were provided from radiographs by a radiologist who was requested to comment on the presence or absence of joint erosions, including the presence of only one erosion.

Results

Table 1 shows the frequency of involvement of different joint sites in RA. The frequency of extra-articular manifestations of the disease is presented in table 2. One

Table 1. Frequency of disease involvement of different joints in the study group

<table>
<thead>
<tr>
<th>Joints involved</th>
<th>Frequency (in 100 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximal interphalangeal joints</td>
<td>90</td>
</tr>
<tr>
<td>Metacarpophalangeal joints</td>
<td>96</td>
</tr>
<tr>
<td>Wrist</td>
<td>95</td>
</tr>
<tr>
<td>Elbow</td>
<td>81</td>
</tr>
<tr>
<td>Shoulder</td>
<td>87</td>
</tr>
<tr>
<td>Temporomandibular</td>
<td>43</td>
</tr>
<tr>
<td>Hip</td>
<td>35</td>
</tr>
<tr>
<td>Knee</td>
<td>35</td>
</tr>
<tr>
<td>Ankle</td>
<td>74</td>
</tr>
<tr>
<td>Foot</td>
<td>87</td>
</tr>
</tbody>
</table>
Table 2. Frequency of extra-articular disease manifestations in the study group

<table>
<thead>
<tr>
<th>Extra-articular manifestation</th>
<th>Frequency (in 100 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcutaneous rheumatoid nodules</td>
<td>9</td>
</tr>
<tr>
<td>Cutaneous vasculitis</td>
<td>2</td>
</tr>
<tr>
<td>Pulmonary nodules</td>
<td>0</td>
</tr>
<tr>
<td>Pulmonary fibrosis</td>
<td>7</td>
</tr>
<tr>
<td>Pleural effusion</td>
<td>1</td>
</tr>
<tr>
<td>Felty's syndrome</td>
<td>0</td>
</tr>
<tr>
<td>Sicca complex</td>
<td>14</td>
</tr>
<tr>
<td>Amyloidosis</td>
<td>1</td>
</tr>
</tbody>
</table>

patient had proteinuria in the nephrotic range suggestive of amyloidosis which warranted performance of kidney biopsy. Anemia was found in 50 patients but none of our patients had leukopenia. The test for rheumatoid factor was positive in 60 patients and erosions were present in 42 patients. All patients with the sicca complex showed ultrasonographic features compatible with the diagnosis. Two patients had extensive diffused fibrotic lung changes evident on CT chest scans, while the remaining 5 patients had milder changes mostly confined to middle and lower lung fields.

Discussion

A relatively low proportion of Kuwaiti men volunteered to take part in the study, resulting in the inclusion of a greater number of women (n = 89) than men (n = 11). A larger epidemiological survey is to be carried out to determine the male-to-female ratio of RA among Kuwaiti patients. The relatively young age (21 years) at disease onset is comparable to that seen in Malaysian [5], Pakistani [7] and Saudi Arabian [9] patients.

The pattern of joint involvement is similar to that described for Caucasians from England and North America and reflected the widespread involvement of all joint groups except hips and temporomandibular joints (table 1).

The rate of extra-articular manifestations as shown in table 2 was similar to that reported by Drosos et al. [3] in Greek patients, in whom the sicca complex was the most common manifestation, as found in our patients. In a comparative study of RA in Malaysian and British patients, in which patients were matched for disease duration and age at onset, British patients had more rheumatoid nodules and vasculitis, while Malaysians had more sicca complex [5]. The frequency of seropositivity of 60% in our study was close to that reported for British and Malaysian patients in whom rheumatoid factor seropositivity was noted in 65% of the patients in each group in a similar hospital-based practice [5].

Greek patients with RA seen at a tertiary care practice were also found to have a lower frequency (29%) of severe radiological changes [3]. Erosive destructive arthropathy was not commonly found in Chinese patients in the study of Nai-Cheng [4]. Both Malaysian [5] and Pakistani [7] patients had fewer erosions when compared with a British population matched for age at onset and disease duration.

We think that the variation in the clinical expression of RA reported in the medical literature for different populations could be attributed to genetic or environmental factors, or to both influences. Recruitment patterns and referral policies might have contributed to variations in clinical observation of RA. In some rheumatology centers, patients who are nonerosive were not followed up as frequently as those with erosions. In Kuwait, patients have easy access to specialized rheumatology clinics regardless of the severity of their disease. Treatment policies are another factor which could influence the development of erosive arthropathy. In Kuwait, agents such as methotrexate, salazopyrine and hydroxychloroquine, which are known to affect disease outcome [1], are used in combination and at an early stage of the disease while in other centers monotherapy is the standard approach in RA management. To assess the role played by genetic factors, careful studies of the immune system and HLA typing in our patients are to be undertaken in the future.

Since our study was of patients seen in secondary and tertiary referral clinics in a hospital, the findings might not represent the whole population of Kuwaiti patients with RA. There might be severe advanced cases with erosive destructive arthropathy that were not referred to specialized rheumatologists and continue to be followed by general practitioners. There may also be mild cases of RA in patients who respond to nonsteroidal anti-inflammatory drugs and who remain under the care of the primary physician.

Conclusion

The findings indicate a low incidence of radiological erosive arthropathy in Kuwaiti patients. The sicca complex was the most common extra-articular manifestation of RA in these patients.
References


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Contact:
Dr. Kamal Al-Shoumer, Chairman
9th HSC Poster Day Committee
Department of Medicine
Faculty of Medicine, Kuwait University
P.O. Box 24923, 13110 Safat (Kuwait)
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