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Research Article

Characteristics of rheumatoid arthritis patients at first presentation to a specialized rheumatology department

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ABSTRACT

Background: Rheumatoid arthritis (RA) is a chronic, progressive, debilitating, systemic, autoimmune disease that mainly affects the diarthrodial joints. It is the most common form of inflammatory arthritis that occurs in approximately 1% of adults. The main objective is to study the characteristics of patients with Rheumatoid Arthritis (RA) at first presentation to a specialized rheumatology department.
Methods: The study included 122 consecutive patients with RA, fulfilling 1987 American College of Rheumatology (ACR) criteria for RA at 'Joint Disease Clinic' of rheumatology department, at ISIC, New Delhi.
Results: The mean age was 45.3 ± 12.4 years, F:M ratio, 8.4:1; maximum patients (31.1%) belonging to age group 30-40 years. Mean age at onset of symptoms was 38.1 ± 12.9 years and disease duration mode 5 years. 88% patients were literate and 59% referred by other patients. 14.8% patients had family history of RA, 7.38% (all males) were smokers. 16.4% female patients developed symptoms of arthritis within one year after delivery. 44.3% patients had severe, 50.8% moderate, 3.3% mild and 1.6% inactive disease (DAS 28[ESR] scoring system). 28.7% patients were taking treatment from alternative systems, 25.4% from orthopaedicians, 15.6% from internists and 8.2% from rheumatologists. Methotrexate and glucocorticoids were the most prescribed drugs (50.8% each) but in inappropriate doses. 23.8% patients had co-morbidities, hypothyroidism (9%) being the commonest.
Conclusions: RA affects middle aged women. Hypothyroidism is the mostly associated autoimmune disease. The majority receive suboptimal / inappropriate treatment before visiting a rheumatologist. Most patients consult a rheumatologist at late stage in the disease often with deformities. Hence, increased awareness is needed about this disease among patients and doctors so that patients get timely referral to a rheumatologist for the proper management of this disease.

Keywords: Rheumatoid arthritis, Characteristics, Severity, DMARD

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, progressive, debilitating, systemic, autoimmune disease that mainly affects the diarthrodial joints. It is the most common form of inflammatory arthritis that occurs in approximately 1% of adults.[1] Although the disease may develop at any age, it occurs commonly in people aged 40 to 70 years. Women are affected 2-3 times more than men.[2] The chronic inflammation of the synovium over time results in damage to the joints, leading to pain and disability. It has a substantial societal effect in terms of cost, disability, and lost productivity.[3] RA is associated with increased mortality, particularly in older women,[4,5] and it

may reduce life expectancy by 3 to 18 years.[6] The prevalence of RA in India is 0.5 – 1% among adult population. Malaviya et al. reported a prevalence of RA 0.75% in adults. If projected to the population of the country this would give a figure of about 7 million Indian adults suffering from RA in 1993.[7,8] Thus, there is a large discrepancy between availability of rheumatologists and the actual numbers in India. In addition, most patients are unaware of this speciality adding to their difficulty. The present study was conducted to define the characteristics of patients with RA at the first visit to a rheumatologist.

METHODS

From September, 2009 to December, 2009, 122 consecutive patients with RA (fulfilling the 1987 ACR criteria), who attended the joint disease clinic of the rheumatology department of Indian Spinal Injuries Center, New Delhi, were included in this study. The variables recorded were: demographic characteristics, age at disease onset, duration of the disease at presentation, co-morbidities (diabetes mellitus, hypertension, ischemic heart disease, thyroid disorder or other significant disease), family history of RA or other significant disease, history of smoking, prior treatment history, disease activity score on 28 joints (DAS 28 [ESR] scoring system)[9-11] routine investigations along with erythrocyte sedimentation rate (ESR), rheumatoid factor (RF) and anti-citrullinated protein antibody (ACPA). The data was entered in the Microsoft Excel sheet and analyzed statistically.

RESULTS

Demographic data

The demographic characteristics and literacy status of the patients are shown in Table 1.

89.3% patients were females (F : M ratio 8.4 : 1) Maximum number of patients (31.1%) belonged to age group 30 to 40 years and 12.3% were aged 60 years and above. More than 3/4th of the patients were educated above 10th standard, while 11.47% were illiterate. Three-fourth of the patients were residents of Delhi, Haryana and Uttar Pradesh. Most of them (59%) were referred by another patients undergoing treatment at this clinic. The others were referred by their treating doctors. 7.38% patients (all males) had history of smoking. 14.8% patients reported family history of RA.

Table 1: Demographic characteristics and literacy status of the patients.

Demographic characteristics	
Mean age in years ± S.D.	45.3 ± 12.4
Female : Male	8.4 : 1 (109 / 13)
Age groups (years)	Total / Female / Male (Percentage)
20 – 30	11.5 / 11.5 / 0
30 – 40	31.1 / 29.5 / 1.6
40 – 50	23.8 / 21.3 / 2.5
50 – 60	21.3 / 18 / 3.3
60 – 70	9.0 / 6.5 / 2.5
Above 70	3.3 / 2.5 / 0.8
Total	100 / 89.3 / 10.7
Literacy status of patients in percentage (n)	
Illiterate	11.5 % (14)
Just literate	0.8% (1)
Primary	11.5% (14)
Secondary	30.3% (37)
Graduation	27% (33)
Post-Graduation	18.9% (23)

Clinical features

The clinical characteristics of the patients are shown in Table 2. The small joints of the hand were the most commonly affected (34.4%), followed by the knee (25.4%), the small joints of foot (15.6%), shoulders (11.5%), wrists (5.7%), ankles (4.1%) and elbow was the least commonly (0.8%) involved joint at the onset of the disease. The mean DAS28 score was 5 ± 1.17 (range 2.58–5.28). As per DAS28 scoring, 50.8% patients had moderate, 44.3% severe, 3.3% mild and 1.6% no disease activity.

Co-morbidities were present in 24% patients, hypothyroidism (9%) being the commonest. Diabetes and hypertension was found in 4% and 8% and pulmonary tuberculosis in 2% patients (Figure 1).

Table 2: Clinical characteristics of the patients.

Mean Pain VAS (S.D.)	46.43 (22.99)
Mean Global VAS (S.D.)	38.93 (24.05)
Mean tender joint count (S.D.)	6.96 (5.25)
Mean swollen joint count (S.D.)	4.49 (3.89)
Mean DAS 28 (S.D.)	5.01 (1.17)
Percentage of patients as per first joint involved (n)	
Shoulder	11.5% (14)
Elbow	0.8% (1)
Small hand joints	34.4% (42)
Wrists	5.7% (7)
Knees	26.2% (32)
Ankles	2.9% (3)
Small feet joints	15.6% (19)
Severity of disease (DAS 28 Scoring)	
Inactive (< 2.6)	1.6%
Mild (2.6 – 3.2)	3.3%
Moderate (3.2 – 5.1)	50.8%
Severe (> 5.1)	44.3%

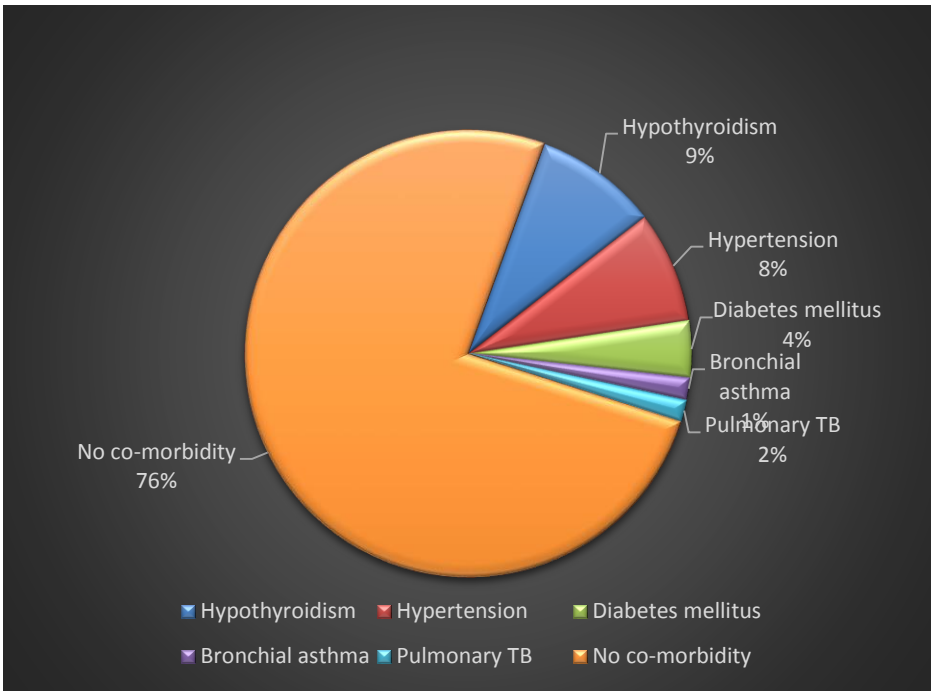

Figure 1: Co-morbidities among the patients.

Laboratory findings

82.8% patients were anaemic with haemoglobin (Hb) < 12 gm./dl. 38.5% had mild anaemia (Hb 10 – 12 gm./dl) and 44.3% had moderate anaemia (Hb 6 – 10 gm./dl). The mean erythrocyte sedimentation rate (ESR) was 49.9 mm in 1st hr. (range 8 – 140). 7.4% patients had erythrocyte sedimentation rate (ESR) above 100 mm in 1st hr. 80% patients reported RF positive; among these 3.8% patients had very high titres of RF (> 1000 IU/L). Anti-cyclic citrullinated peptide antibody test (ACPA) results were available of 28 (22.95 %) patients only with 78.6% patients having ACPA positive and 60.7% having titres of ≥ 60 IU/L.

Prior treatment

Prior treatments included alternative system in 28.7%, , treatment under an orthopaedic surgeon in 25.4%, 18.9 % were taking treatment from internists, 15.6% were under treatment of general practitioners and 3.2% were on self-treatment of some or the other type. 8.2% patients were on treatment from a rheumatologist and came for second opinion. 14.7% patients consulted a rheumatologist earlier but discontinued the treatment. The patients were being treated with the following drugs: 50.8% patients with low-dose methotrexate (LD-MTX), 40.2% with hydroxychloroquine (HCQ), 17.2% with sulfasalazine (SSZ), and 7.4% with leflunomide (LFN). In most of cases, these drugs were prescribed in sub-optimal doses. Only one patient (0.8%) had taken gold injections. No patient had received biological agent. 50.8% patients had taken glucocorticoids – 36.9% as oral low doses (< 7.5 mg/d), 8.2% as oral repeated moderate doses (> 7.5 mg/d but < 20 mg/d) , 3.2% as intramuscular (IM) depot injections few times and 2.4% as repeated IM depot-preparations. 79.5% patients had taken ayurvedic medicine – 20.5% for more than 2 years, 52.5% on and off, 6.6% for less than 3 months. 34.4% patients had taken homeopathic medicine – 3.3% for more than 2 years, 27.9% on and off, 3.3% for less than 3 months. Overall, about half of the patients (47.5%) took their treatment irregularly.

DISCUSSION

The present study describes clinical features, laboratory investigations and treatment received by patients with RA prior to presenting to this specialized rheumatology clinic. The mean age at onset of disease of 38.1 years, which is similar to that reported earlier (36 years).[12] The average duration of disease at the time of presentation was ~ 7 years (range < 1 – 25 years), which is also similar to that reported in the other series.[12]

Most of the patients were females with F: M ratio of 8.38: 1. Lee et al.[3] reported a lower figure of F: M ratio of 2.5: 1. However our finding is in accordance with the 88.5% females in RA patients study done by Tembe et al. (2008) (12) from Mumbai. The reason for high female to male ratio is not obvious from our work.

Most of the patients (3/4th) were residents of Delhi and neighbouring states of Haryana and Uttar Pradesh. Most of the patients (3/4th) were educated above 10th standard. 27% were graduates and 19% were post graduate. Only 12% were illiterate. This is expected of the patients coming to the tertiary care hospital. Obviously, this figure cannot be extrapolated to RA patients in general. This is mainly because the patients were studied in a private hospital where by-and-large only well-to-do patients are seen.

Klareskog et al. (2007)[13] have reported that smoking can trigger the genes that may cause a self-perpetuating autoimmune phenomenon resulting in rheumatoid arthritis. In the present study however, only 7.38% patients were smokers and all were males. But, when considering only males, 9 of the 13 i.e. 69.23% were smokers. This observation could be considered as indicative of the role of smoking in the causation of RA, at least among males. In comparison Tembe et al. (9/12), reported only 3.9% smokers in their study but the figures for males and females was not available in that report. As passive smoking among females was not specifically asked it is not certain if some of them were exposed to smoke.

A significant number of patients (14.8%) reported family history of RA. This figure is comparatively high as reported by Tembe et al.[12] and in literature.[2] RA being a genetically driven disease,[14] this observation was not surprising. Difference between the present study and that by Tembe et al could be due to the methodology; in the present study history was taken up-to second-degree relatives.

About one-fourth of the patients (23.8%) had co-morbidities. The co-morbidities in RA are important due to their impact on health status of the patient and also their consideration in treatment and prognosis. Hypothyroidism (9%) was the commonest comorbidity followed by hypertension (8%) and diabetes mellitus (4%) were the common ones. High prevalence of hypothyroidism among patients with RA has been reported by several workers.[15,16,17,18] It stands to reason because both of them are autoimmune diseases. No patient had active TB, while 2% had been treated for pulmonary TB. A past history of TB poses the patient to a high risk of reactivation of TB, when immunosuppressive treatment including glucocorticoids or TNFα blockers is used.

Most of the patients (59%) were referred by the patients who have been under the treatment of this clinic and got relief. Interestingly, only a few patients were referred by their treating doctors. This is very different from the practice abroad where there is a proper referral system ensuring that patients are seen by the specialists who make long-term management plan. It is obvious that doctors in India are not aware of the importance of early treatment, during the 'window period' when there is a high chance of patients achieving remission without much damage (15/19). Also, it is likely that the doctors are not aware of the importance of objectified 'treat-to-target' strategy that has now been shown to be highly effective in controlling the disease and preventing long-term damage, disabilities and complications of RA.[20] The pattern of treatments taken prior to visiting the specialized clinic shows that the majority were taking either treatment from alternative systems of medicine or from doctors of modern medicine who are not formally trained in rheumatology. This state-of-affairs is most likely due to general lack of information about rheumatic diseases; where to go and whom to consult for its

evaluation, diagnosis and treatment. Wide spread misbelieves and wrong information about rheumatologic diseases (e.g. 'there is no treatment for such diseases in modern medicine', 'there is no cue in modern medicine for such diseases') could be the main cause that the patients do not reach rheumatologists at the time when the treatment could be most effective. Concerted effort of organizations like Indian Rheumatology Association and other NGOs to educate the public about rheumatologic diseases and rheumatologists is urgently required.

CONCLUSION

Rheumatoid arthritis affects mainly females. The patients consult a rheumatologist very late in the course of the disease and most with moderate severity. Most of them take alternate system of medicine or treatment from different doctors who are not formally trained in rheumatology. Moreover, importance of regular check-up, objectified assessment and continuous treatment is usually not emphasized. Moreover, most doctors untrained in rheumatology are unaware of the dramatic advances made in rheumatology, especially RA. This was reflected in the present study as most patients were not in remission at the time of presentation. In India, there are a large number of patients suffering from rheumatoid arthritis (RA) and very less number of rheumatologists than required to treat them properly. This finding signals the need of increasing the awareness of the RA patients about its proper and timely treatment by a rheumatologist or a doctor having good experience of rheumatology. Secondly, the physicians and orthopaedicians must get special rheumatology training to treat this common disabling arthritis.

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