CLINICAL REGISTRY FOR RHEUMATOID ARTHRITIS; A PRELIMINARY ANALYSIS

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ABSTRACT

Objective: To establish a clinical registry for Rheumatoid Arthritis and delineate the most common symptoms that rheumatoid arthritis (RA) patients experience in our set up.

Study Design: Cross sectional study.

Place and Duration of Study: Study was carried out at Military Hospital (MH) Rawalpindi at Rheumatology Department during the period of Jan 2013 to Jun 2015.

Material and Methods: A clinical registry for Rheumatoid Arthritis was developed as per criteria jointly developed by American College of Rheumatology (ACR) along with European League against Rheumatism (EULAR) (2010). Fifty-eight patients were registered after their informed consent and approval by Military Hospital (MH) Rawalpindi ethical committee. Age, gender and relevant clinical parameters of RA patients were recorded on case report forms and stored for analysis in the RA registry in Excel 2010. The figures were reported in frequencies and percentages.

Results: Multiple joint pains (48.28%), fever (24.14%), morning stiffness of joints (22.41%) were the most common symptoms in RA patients. Other clinical manifestations included painful bilateral swollen joints (13.79%), pain in different parts of the body (10.34%), Raynaud's phenomenon (10.34%), malaise (8.62%), swollen body parts (8.62%), ulcers (8.62%), fatigue (6.90%), nodules on skin / elbow / interphalangeal joints (6.90%), deformities of fingers / hand (3.45%), redness of eyes (3.45%), body rash (3.45%), inability to walk (3.45%), cervical lymphadenopathy (1.72%), stiffness of spine (1.72%) and myalgias (1.72%).

Conclusion: It is concluded that multiple joint pains, fever and morning stiffness of joints are the most common symptoms of RA patients.

Keywords: Morning stiffness of joints, Multiple joint pains, Rheumatoid arthritis, Symptoms.

INTRODUCTION

Rheumatoid arthritis (RA) is an autoimmune and chronic inflammatory disorder affecting physical along with psychosocial health[1]. RA develops as a consequence of genetic and environmental factors leading to development of severe inflammation thus resulting in synovitis which adversely affects joints. These pathologies leave the patient in pain and chronic disability. The extra-articular manifestations and co-morbidities along with RA lead to increased mortality[2].

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About 1% of world's population is suffering from RA[2]. In developing countries, the RA prevalence is variable[3]. Recent prevalence data for Pakistan is scarcely available. About a decade earlier, the prevalence of RA in southern Pakistan has been reported as 0.142%[4] whereas prevalence of RA in northern Pakistan has been reported as 0.55%[5]. Khurram, as reported on THE EXPRESS TRIBUNE that RA has affected approximately 14 million Pakistanis[6]. Moreover; definite figures are not available for RA prevalence in Pakistan at the national level[5]. Multiple organ systems are affected by RA[7].

Hence for development of effective treatment, understanding the pathophysiology of RA is helpful. Success in therapy results if RA is diagnosed at an early stage[8]. The patients fail to

visit the rheumatologists at onset of RA resulting in delay in diagnosis and hence commencement of treatment. Maximum damages to the joints result in first year of onset of RA which is the time when the patients are going from one doctor to another and getting symptomatic treatment only. Diagnosis of RA can be enhanced by boosting early appointment with rheumatologists[9].

This study is focused to design a set of symptoms that Pakistani RA patients experience in early RA which should not be ignored by the affected person and general practitioners. In such patients screening should not be missed for RA and early referral should be made with a rheumatologist.

Table: Rheumatoid arthritis classification criteria of 2010[9].

	Score
Targeting the population who 1) Having at least one joint affected with synovitis 2) Have no alternative diagnosis available explaining the reason of synovitis criteria for classifying RA is score-based algorithm: scores are added from categories A–D; in order to classify a patient with definite RA, a score of 6 / 10 is required	
A. Joint involved	
one large joint	0
Two to ten large joints	1
One to three small joints	2
Four to ten small joints	3
More than ten joints (with at least 1 small joint)	5
B. Serum testing	
Negative for RF and negative for Anti-CCP	0
Low-positive for RF or low-positive for Anti-CCP	2
High-positive for RF or high-positive for Anti-CCP	3
C. Acute-phase response	
Normal range of CRP and normal range of ESR	0
Abnormal range of CRP or abnormal range of ESR	1
D. Duration of symptoms	
Less than six weeks	0
Six or more than six weeks	1

MATERIAL AND METHODS

A clinical registry for Rheumatoid Arthritis was designed at the rheumatology department Military Hospital (MH) according to criteria jointly developed by American College of Rheumatology (ACR) along with European League against Rheumatism (EULAR) (2010)[10]. The patients were recruited who visited MH Rawalpindi for consultation in Rheumatology Department. The study design was cross sectional and sampling technique used was non-probability convenience sampling with all patients meeting ACR and EULAR criteria for RA registered from January 2013 to June 2015. The symptoms of RA patients were studied from the registry during the study period. Fifty-eight patients were registered after their informed consent. The contact details of the patients were recorded for information and tracking. Each patient was assigned a number and all data was compiled based on that ID number. Patients' data was kept confidential. Age, gender and relevant clinical parameters of RA patients were recorded on case report forms and stored for analysis in the RA registry in Excel 2010. The figures were reported in frequencies and percentages. Mean

and standard deviation were calculated for quantitative variables.

This new criteria explains that RA classification is done by confirming synovitis of at least one joint not being explained by any other diagnosis, getting a score of 6 or above (with possible score 10) total score in four different domains i.e. number of involved joints and their location (with score range 0-5), testing serum for presence of rheumatoid factor (RF) as well as anti-cycliccitrullinated peptide (ACCP) (with range 0-3), assessing levels of acute-phase reactants like C-reactive protein (CRP) as well as erythrocyte sedimentation (ESR) (with range 0-1) and period of symptoms (with two levels; range 0-1) as presented in the table.

RESULTS

The clinical manifestations of RA were studied in 58 RA patients registered during the study period in a specially designed clinical registry as per American College of Rheumatology (ACR) along with European League against Rheumatism (EULAR) criteria, 2010. The mean age of the patients was 46.21 years ± 17.26. Among 58 patients, 23 (40%) were males and 35 (60%) were females. Males had amean age of 49.74 years ± 16.81 whereas females had mean age of 43.2 years ± 16.70. A number of RA associated clinical manifestations were observed which are shown in fig. More than one symptom was observed in every RA patient. It was found that multiple joint pains was the most common symptom that RA patients were experiencing i.e. 28 out of 58 patients (48.28%). The second most common symptom felt by RA patients was fever. 14 out of 58 patients (i.e., about 24.14%) complained of experiencing low grade fever. The third most common symptom of RA was found to be morning stiffness of joints that affected 13 out of 58 patients i.e. 22.41%. Among the clinical manifestations, painful bilateral swollen joints were another symptom that was observed by the patients, 8 out of 58 patients i.e. 13.79% of the RA patients had complaints of painful bilateral swollen joints. Pain in different parts of the body including the pain of back, neck, chest pain, and general body aches were observed by 6 out of 58 patients (i.e. 10.34%). Raynauds phenomenon (blue peripheries & nails) was observed by 6 out of 58 patients i.e. 10.34% patients. Malaise was experienced by 5 out of 58 patients i.e. 8.62% patients. Five patients i.e. 8.62% had complaints of swollen toe or knee, hands or face. RA patients also suffered from ulcers problem including mouth ulcers and digital ulcers. It was found that 5 out of 58 patients (i.e. 8.62%) had different kinds of ulcer problems. Fatigue was experienced by 4 out of 58 patients i.e. 6.90% patients. RA patients with complications also complained of presence of skin nodules or tender nodules around elbow or interphalangeal joints, 4 patients i.e. 6.90% had complaints of skin nodules or tender nodules around elbow or interphalangeal joints. Patients also suffered from deformities of fingers / hand. It was found that 2 out of 58 patients (i.e. 3.45%) had either deformed fingers or hands that affected their ability of hold

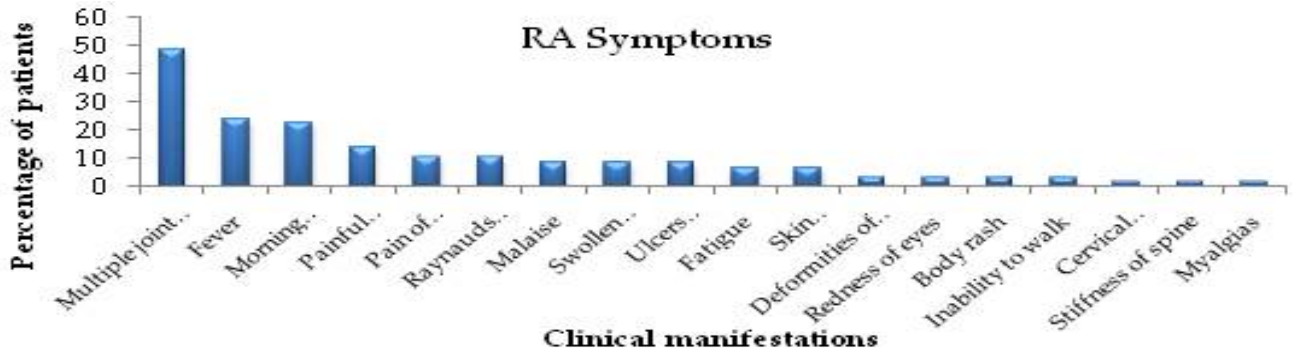

Figure: Clinical manifestations of the patients.

or grip thus compromising their functional status. The redness of eyes was another symptom observed by the patients of RA. Two out of fifty eight patients (i.e. 3.45%) had redness of eyes. Patients also suffered from body rash. It was found that 2 out of 58 patients (i.e. 3.45%) had rashes on their body. The inability to walk was another symptom observed by the patients of RA. Two out of fifty eight patients (i.e. 3.45%) were unable to walk. One RA patient complained of swellings in the neck (cervical lymphadenopathy) (i.e. 1.72%), one patients complained of stiffness of spine (i.e. 1.72%) and one patient complained of muscular aches and pains (i.e. 1.72%).

DISCUSSION

RA is an inflammatory disease affecting cartilages, bones, soft tissues, viscera and blood vessels. Effective treatment if started soon after diagnosis can change the disease course, reducing complications of disease and improving the functional status. It has been reported that persistent pain along with joint degenerations result in mental and physical disabilities and reduced health-related quality of life (HRQoL) as disease progresses[11].

RA has varied natural history having at least three possible courses of disease i.e., monocyclic course, polycyclic course and progressive course. Monocyclic one has only one episode ending within two to five years after diagnosis because of early diagnosis/aggressive treatment whereas polycyclic course is characterized by varied levels of disease activity. In case of progressive course, despite all management, intensity of RA increases and persists resulting in deforming RA[12].

RA damages synovial-lined joints and is responsible for different extra-articular manifestations. Involvement of tendons and bursae is frequent. Any joint can be affected but RA usually affects symmetrical interphalangeal joints, wrists, elbows, shoulders, ankles and knees in decreasing frequency. The affected joints are swollen, painful and have morning stiffness. Morning stiffness of joints and areas around the joints persisting for at least one hour is a characteristic feature of RA[13]. Duration of morning stiffness is linked with disease activity[14]. Involvement of hand is the distinctive early manifestation of RA. General symptoms include malaise, fatigue, weight loss and fever and they can be related with different extra-articular manifestations e.g. rheumatoid nodules, visceral involvement etc. Epidemiologically, RA causes disability. An aggressive early treatment can bring remission[12]. The data on frequency wise distribution of RA symptoms experienced by RA patients is negligible.

Pain is declared the biggest problem by RA patients[15] as it leads to sleep disturbances and psychological distress and can even be significant source of disability as compared to structural damage of the joint[15,16]. The clinical manifestations of RA were evaluated in this study in 58 subjects. It was found that multiple joint pains, fever and morning stiffness of joints were the most common symptoms in RA patients, also reported by Ramirez et al[17]. Other clinical manifestations included painful bilateral swollen joints, pain in different parts of the body, Reynaud's phenomenon, malaise, swollen body parts, ulcers problem, fatigue, nodules on skin and elbows, deformities of fingers/ hand, etc, similar to findings of Khan et al[18].

A multi centered National clinical registry is needed to give a clearer picture of the clinical manifestations of RA in Pakistani patients. Besides that, health literacy of the people is also necessary to bring awareness about RA symptoms so that patients can visit the rheumatologist as soon as they feel any symptoms relevance to RA. The timely diagnosis will be helpful for effective treatment of RA.

CONCLUSION

It is concluded that multiple joint pains, fever and morning stiffness of joints are the most common symptoms of RA patients.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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