

Original article:

Prevalence of Rheumatoid Arthritis in Adults Patients: A Hospital Based Study

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Abstract:

Introduction: Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease characterized by a symmetrical inflammation of the synovium, resulting in tenderness and destruction of bone and cartilage in various joints, particularly the smaller joints of the hands and feet. Although the cause of RA is unknown, autoimmunity plays a pivotal role in its chronicity and progression. RA affects approximately 1.0% of the general population, women more often than men, and the inflammatory burden of the disease results in functional disability.

Materials & Methods: Forty patients were included in this study. The case control study was carried out in the Department of Orthopaedics, Chennai Medical College Hospital and Research Centre, Trichy, Tamil Nadu, India. Duration of this study was six month.

Results: In the present study, forty patients were included, out of which 15% male and 85% female. From the forty patients most of the people were belongs to 41-50 age group followed by 51-60 (27.5%) ,35-40 (25%) ,61- 65(17.5%).Elevated ESR were in the 52.5% of group, rest of the people were normal. Same as in case of CRP positive found in the 52.5% & 47.5% were negative.

Conclusion: The prevalence in RA group quite high as compared to general population

Keywords: Autoimmune, Rheumatoid Arthritis, Synovial Joints, Anti-Rheumatic Drugs.

INTRODUCTION

RA is a chronic autoimmune inflammatory disease.it is predominant in females. It has been estimated that RA affects approximately 1% of the population in the world. Although the etiology of RA is unknown yet genetic factors, environmental factors and lifestyle factors are associated with its development.¹⁻⁴ In RA there is cartilage and bone destruction due to inflammation of the synovium Joints of the hands and feet are the first to get affected in RA.⁵ RA patients are at high risk for cardiovascular diseases. It includes atrial fibrillation stroke and mortality as well as other autoimmune diseases. The association of RA with cardiovascular diseases is of particular importance as both conditions increase with age and the world's population is aging. The condition is very much varied. It can increases and decrease alternatively and reoccur or progress very fast leading to debilitating joint destruction.^{1,2} For RA treatment, there are lots of anti- rheumatic drugs (DMARDs) and biological agents In RA the effectiveness of different agents is somewhat impeded due to various classification of disease, severity and endpoints of treatment.^{6,7}

The aim of this study was to know the prevalence of rheumatoid arthritis in tertiary care hospital at Study Area: The case control study was carried out in the Department of Orthopaedics, Chennai Medical College Hospital and Research Centre, Trichy, Tamil Nadu, India Study Duration: Duration of this study was six month. Sampling Technique & Data Collection: A total of 40 patients of rheumatoid arthritis who were willing included in the study and were randomly selected and recruited. Other data of age, sex, life style, family history of diabetes and other diseases/disorders were collected. Height, weight and waist circumferences were measured with the subject barefooted and lightly dressed.

Results:

Table 1. Gender-wise distribution

Gender	Number of patients	Percentage
Male	6	15 %
Female	34	85%
Total	40	100 %

Table 2. Distribution of age according to age group

Age Group	No. Of Patients	Percentage
35-40	10	25%
41-50	12	30%
51-60	11	27.5%
61-65	7	17.5%
Total	40	100%

Table 3. ESR level in the patients

ESR	No. of patients	Percentage
Normal	29	72.50
Elevated	11	27.50

Table 4. CRP level in the patients

CRP level	No. of patients	Percentage
Postive	21	52.50
Negative	19	47.50

Table 5. Rheumatoid Factor in the patients

Rheumatoid Factor	Number of patients	Percentage
More than 3 times	24	60
Less than 3 times	13	32
Negative	3	8

Table 6. Anti CCP Factor in the patients

Anti CCP Factor	Number of patients	Percentage
More than 3 times	31	78
Less than 3 times	3	8
Negative	6	15

Table 7. Comparison of parameters in case & control group

Parameters	Case	Control	P
group(N=21)	group(N=19)		value
Wc (centimeters)	13(61.9%)	15(78.9%)	0.745
Elevated	11(52.3%)	3(15.7%)	<0.0001
BP(mmHg)			
Low	11(52.3%)	7(36.8%)	<0.0001
HDL(mg/dl)			
Elevated TGs	7(33.3%)	6(31.5%)	.467
Abnormal	5(23.8%)	2(10.5%)	<0.0001
Sugar (mg/dl)			

In the present study, forty patients were included, out of which 15% male and 85% female. From the forty patients most of the people were belongs to 41-50 age group followed by 51-60 (27.5%), 35-40 (25%), 61-65(17.5%).

Elevated ESR were in the 52.5% of group, rest of the people were normal. Same as in case of CRP positive found in the 52.5% & 47.5% were negative .In our study found that, Rheumatoid Factor more than 3 times elevated in 60% of people & less than 3 time elevated in 32.5% of people & 7.5 were negative. Same as in case of Anti CCP more than 3 times elevated in 77.5% of people & less than 3 time elevated in 7.5% of people & 15 were negative. The most common abnormality found in the Case group that were RA group like elevated BP & Low HDL found 52.3%, Elevated TGs 33.3% and abnormal sugar 23.8% were found.

DISCUSSION

Multiple studies have been done and several studies are continued to find out early diagnostic methods and to decrease DALY as the prevalence of metabolic syndrome and morbidity and mortality related to rheumatoid arthritis has increased. All over the world various studies in RA have already been performed. Among the population, the frequency of disease has been found to range from 14 to 63%. Karvounaris SA, Sidiropoulos et al and LA Montagna G., Cacciapuoti F et al ¹¹⁻¹³ revealed in their studies that it is not always the values found are higher in comparison to controls but factors such as disease activity, inflammatory markers, severity of the disease, treatment related to rheumatoid arthritis. Patients of RA have been reported to have increased premature atherosclerosis leading to adverse cardiovascular episodes and have also been found to have association with metabolic syndrome.

In the present study, the most common abnormalities found in RA group were increased waist circumferences, increased arterial pressure (52.3%), low serum HDL (52.3%), elevated serum triglycerides (33.3%) and abnormal blood sugars (23.8%). Out of these abnormalities arterial pressure, HDL and sugar levels were the most significant differences between RA and the control group ($p < 0.0001$).

CONCLUSION

The prevalence in RA group quite high as compared to general population. Most common parameters which contribute the metabolic syndrome in study group as well as in control group but some statically difference was there in BP, low HDL and abnormal sugar.

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