



A PREVALENCE OF RHEUMATOID ARTHRITIS AMONG PATIENTS IN DHIRAJ HOSPITAL, VADODARA.

Microbiology

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ABSTRACT

Introduction- Rheumatoid arthritis (RA) is an autoimmune disease with a worldwide prevalence of approximately 0.5% to 1% among adults. The prevalence of chronic disease provides an indication of the burden of a disease, which is useful to health professionals and policy makers for healthcare planning. Variations in the prevalence of rheumatoid arthritis (RA) have been observed both over time and geographically. **Method-** This study include All male and female and all age group registered in Dhiraj hospital, Vadodara, Gujarat. Samples were received in serology section of microbiology laboratory requested for Rheumatoid Factor antibodies test were tested by RF- latex slide agglutination test by ASPEN Diagnostics and AGAPPE MISPA. **Results-** The 295 serum samples was processed for detection of Rheumatoid Factor. As shown in figure-1, 35 samples were positive and 260 samples were negative. Total prevalence for RA positive serum samples were 35(11.8%) for Rheumatoid Factor. **Conclusion:** The prevalence of rheumatoid factor antibody in this study among total cases was 11.8%. The prevalence of RA was found to be the highest in the age group (41-60) year. As the data studied here is not enough for the making any conclusion on prevalence of RA in a particular age, so need to do more studies on prevalence of RA in different population is required.

KEYWORDS

RA (Rheumatoid arthritis), CVD (cardiovascular disease), RA (Rheumatoid Factor).

INTRODUCTION:

Rheumatoid arthritis (RA) is an autoimmune disease with a worldwide prevalence of approximately 0.5% to 1% among adults 1&2.

when Rheumatoid arthritis is left uncontrolled, the RA patient may experience joint deterioration, severe disability, decreased quality of life, the onset of comorbidities and premature mortality 3&4. The comorbidities may also include but are not only cardiovascular disease (CVD), cancer (specifically lymphoma and lympho- proliferative diseases, lung cancer and melanoma), infections, depression and gastrointestinal disease. Mainly CVD disproportionately affects RA patients. The cardiovascular (CV) risk score calculated in a recent study of traditional CV risk factors in Indian patients suggests that RA patients have a four-fold increase in CV risk compared to the general population from the same geographic location. However, no mortality studies of CV events among Indian RA patients are available. Since the 1960s, the gap in CVD mortality between RA patients and the general populations in other countries has widened, as RA patients have remained at an increased risk compared with general populations 5.

The prevalence of chronic disease provides an indication of the burden of a disease, which is useful to health professionals and policy makers for healthcare planning. Variations in the prevalence of rheumatoid arthritis (RA) have been observed both over time and geographically. The hypothesis that the occurrence of RA has declined has been suggested in countries where epidemiological studies have been conducted in previous decades. This study of prevalence helps to highlight the burden of RA, as called for by the Bone and Joint Decade.

AIM AND OBJECTIVE:

Primary Aim: To know the prevalence of Rheumatoid Arthritis among the patients in Dhiraj Hospital Vadodara.

Secondary Aim: To determine the prevalence of Rheumatoid Arthritis among the patients in Dhiraj Hospital Vadodara.

To assess whether the disease is becoming less prevalent.

RISK AND BENEFIT:

It is cost effective and helps To determine the prevalence of Rheumatoid Arthritis among the patients in Dhiraj Hospital Vadodara.

MATERIALS & METHODS:

Study design – Retrospective, observational study, case controlled study.

Study Area- The study will be carried out at Dhiraj general hospital in Microbiology laboratory (central laboratory) Dhiraj hospital, Vaghodia.

Study Period- June-Aug 2023 (3 months duration)

METHOD-

This study includes All male and female and all age group registered in Dhiraj hospital, Vadodara, Gujarat.

Patients have pain in joints, back and muscle including swelling, redness, tenderness, inflammation attending Dhiraj hospital, vadodara were included in the study.

The study was conducted in serology section of Microbiology laboratory, Dhiraj Hospital, Vadodara between the periods of June 2023 to august 2023. Samples were received in serology section of microbiology laboratory requested for Rheumatoid Factor antibodies test were tested by RF- latex slide agglutination test by ASPEN Diagnostics 7 and AGAPPE MISPA 8. The samples were centrifuged at 3000 rpm for 2 minutes. Serum was then separated by using micropipette. Total 295 serum samples were tested.

RESULTS:

The 295 serum samples was processed for detection of Rheumatoid Factor. As shown in figure-1, 35 samples were positive and 260 samples were negative. Total prevalence for RA positive serum samples were 35(11.8%) for Rheumatoid Factor.

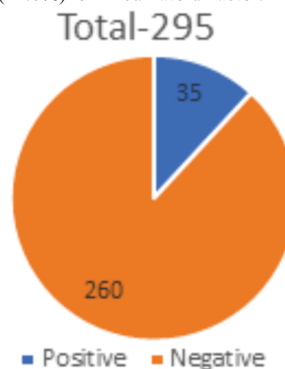


Fig-1: Total No. of RA positive and RA negative cases.

The number of positive cases in the different age group shown in table 2. In (0-20) year of age total 0 samples receive. In (21-40) year of age total 52 samples receive, out of this 3 samples found positive for RF , prevalence rate 5.7%. In (41-60) year of age total 202 samples receive, out of this 28 samples found positive for RF , prevalence rate 13.8%. In more than 60 year of age total 41 samples receive, out of this 4 samples found positive for RF, prevalence rate 9.7%.

The highest prevalence of rheumatoid factors antibodies positive samples were 28 samples out of 202 samples (13.8%) found in age group of (41-60 years). Very low prevalence found in age group of 21-40 years which is 3 positive serum samples for rheumatoid factors antibodies out of 52 total samples. The prevalence rate declines as age increases, so it is more prevalent among younger age group.

Table-2: The Number Of Positive Cases In Different Age Group

Age group (years)	No. of samples	No. Of Positive	Prevalence
0-20	0	0	0%
21-40	52	3	5.7%
41-60	202	28	13.8%
>60	41	4	9.7%

DISCUSSION:

Rheumatoid Factor are antibodies directed against antigenic sites in the Fc fragment of human and animal IgG. Their frequent occurrence in rheumatoid arthritis make them useful for diagnosis and monitoring of the disease⁷.

Our study showed that from total 295 samples tested, 35 samples were found RF positive, prevalence rate for RF was 13.8%, whereas the same study which was conducted in Spain showed 0.37 % prevalence of RF positive cases⁹. The Similar study was also performed where 0.28 % prevalence was observed of RF positive cases¹⁰. Our study showed that the highest prevalence 13.8% of RF antibody found in age group of (41-60 years), Where the same study which was conducted in China showed that the highest prevalence in age group of >70¹¹. That clearly indicate the RF level vary with age group of the study population & geographical distribution.

CONCLUSION:

The estimation of Rheumatoid factor antibodies is a simple, cost effective way & test report can be given rapidly and test is correlated with clinical finding for routine diagnostic work. It is useful without depending upon the other test. The prevalence of rheumatoid factor antibody in this study among total cases was 11.8%. The prevalence of RA was found to be the highest in the age group (41-60) year. As the data studied here is not enough for the making any conclusion on prevalence of RA in a particular age, so need to do more studies on prevalence of RA in different population is required.

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