Original Article

A Study On Prevalence Of Thyroid Dysfunction In Rheumatoid Arthritis Patients Attending Outpatient Department Of A Tertiary Care Hospital

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Abstract

Background:

RA is a systemic autoimmune disorder characterized bysymmetrical, inflammatory, deforming polyarthritis affecting small and large peripheral joints with associated systemic disturbancesuch as vacuities and nodules. The prevalence of thyroid dysfunctionin rheumatoid arthritis is 10-15% which is high in previous studies[2, 3] .This study shows the prevalence of thyroid dysfunction in RA patients in indian population .

Aims:
A study on prevalence of thyroid dysfunction in rheumatoid arthritis patients attending outpatient department of a tertiary care hospital

Materials and Methods:.

The study was a case control study involving 50 rheumatoid arthritis patients (8 male and 42 female) .The conditions which can alter thyroid profile were excluded from the study population at the time of selection and sex matched healthy subjects were taken as controls .

Thyroid function test were done in all patients and controls. In patients who were found to have thyroid dysfunction TPO antibodies were done.SPSS 24was used for statistical analysis of results

Results: Prevalence of thyroid dysfunction is higher in patients with rheumatoid arthritis.

Introduction: Rheumatoid arthritis (RA) is the most common inflammatory arthritis affecting about 0.5-1% of general population[1.] . .RA is a systemic autoimmune disorder characterized bysymmetrical, inflammatory, deforming polyarthritis affecting small and large peripheral joints with associated systemic disturbancesuch as vasculitis and nodules . several studies like study done by Boelaert et al [4] investigated the prevalence of and relative risks for coexisting autoimmune diseases in patients with Graves disease (2791 patients) or Hashimoto thyroiditis (495 patients). The authors found coexisting disorders in 9.7% of patients with Graves disease and in 14.3% of those with Hashimoto thyroiditis, with rheumatoid arthritis being the most common of these (prevalence = 3.15% and 4.24% in Graves disease and Hashimoto thyroiditis, respectively. Our study aims at finding such a correlation of thyroid dysfunction in rheumatoid patients in Indian population.

Need for the study:

In view of scarcity of studies on thyroid dysfunction in rheumatoid patients in Indian population

Aims & Objectives of the study:

A study on prevalence of thyroid dysfunction in rheumatoid arthritis patients attending outpatient department of a tertiary care hospital.

Materials and Methods: This was a case control study done in department of General medicine in Meenakshi Medical College Hospital and Research Institute, a tertiary care teaching hospital located inEnathur, Kanchipuram. , after getting necessary permission and ethical committee clearance , data of 50 rheumatoid arthritis patients (8 male and 32 female) were taken along with data of healthy controls .Thyroid function test were done in all patients and controls . SPSS 24was used for statistical analysis of results

Tools used: T3, T4 , TSH VALUES , RA FACTOR

Results: In our study, there were 50 patients with , Female (42)Male (8)
And mean age was . 41.82 Years .

Table 1- COMPARISON OF T3 VALUES IN CASES AND CONTROLS

	CASE	CONTROL
MEAN	99.70	134.8
STANDARD DEVIATION	22.29	31.37
P VALUE	<0.001	

On comparing the T3 by **chi square test** , the p value is 0.001which is < 0.05 . So, there is significant abnormality in T3 levels in rheumatoid arthritis.

TABLE :2 COMPARISON OF T4 VALUES IN CASES AND CONTROLS

	CASE	CONTROL
MEAN	6.49	9.2
STANDARD DEVIATION	4.72	3.03
P VALUE	0.002	

On comparing the T4 by **chi square test** , the p value is 0.002which is < 0.05 . So, there is significant abnormality in T4 levels in rheumatoid arthritis

TABLE :3 COMPARISON OF TSH VALUES IN CASES AND CONTROLS

	CASES	CONTROLS
MEAN	2.75	1.96
STANDARD DEVIATION	1.96	0.96
P VALUE	0.04	

On comparing the TSH by **chi square test** , the p value is 0.04 which is < 0.05 . So,there is significant abnormality in TSH levels in rheumatoid arthritis

Discussion:

In our study , there were 50 patients with , Female (42)Male (8)
And mean age was . 41.82 years and Controls of equal number. When thyroid values were compared, first T3 values checked by chi square test , the p value is 0.001 which is < 0.05 . So, there is significant abnormality in

T3 levels in rheumatoid arthritis , followed by T4 values were checked by chi square test , the p value is 0.002 which is < 0.05 . So, there is significant abnormality in T4 levels in rheumatoid arthritis
And finally On comparing the TSH by chi square test , the p value is 0.04 which is < 0.05 . So, there is significant abnormality in Thyroid values in rheumatoid arthritis. Similar findings were seen in studies done In a study by Fabiola Atzeni 5to assess thyroid function as well as the prevalence and clinical value of anti-thyroid antibodies in patients with rheumatoid arthritis (RA) done in 70 RA patients , this study shows an increased prevalence of anti-thyroid antibodies in RA patients with a low prevalence of hormonal alterations. Other important studies done Przygodzka M, Filipowicz-Sosnowska2 regarding prevalence of thyroid diseases and antithyroid antibodies in women with rheumatoid arthritis done among 100 patients with RA thyroid function and antithyroid antibodies were assessed. Similar incidence of thyroid dysfunction was seen in RA . So our study strongly showed the correlation between thyroid dysfunction and RA ,

Limitations:

Small sample size

conclusion:

our study confirms that the prevalence of thyroid dysfunction in rheumatoid arthritis is high and is associated with thyroid autoimmunity and suggest that all rheumatoid arthritis patients should undergo thyroid function

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