

A PROSPECTIVE STUDY TO EVALUATE AND DIAGNOSE WITH OCULAR INVOLVEMENT IN RHEUMATOID ARTHRITIS

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Abstract

Background: Rheumatoid arthritis is an autoimmune, inflammatory disease of the joints. The disease is chronic, devastating, and may affect multiple organs including eye. To evaluate and diagnose with ocular involvement in rheumatoid arthritis. **Materials and Methods:** The study involved 135 subjects having rheumatoid arthritis. The patients underwent detailed ocular examination, complete hematological profile evaluation, slit lamp examination and ophthalmoscopy. The tear function was assessed by, tear film breakup time and ocular surface staining. **Result:** A significantly higher ocular involvement was found in the present study. Females were affected more compared to males and the bilateral involvement was common. kerato-conjunctivitis sicca was the most common finding. **Conclusion:** The disease must be addressed on time, as these has a very potential to cause permanent damage of the eye.

INTRODUCTION

Rheumatoid arthritis is an autoimmune, inflammatory disease of the joints. The disease is chronic, devastating, and may affect multiple organs. A clear cut etiopathogenesis of rheumatoid arthritis is still unknown. Worldwide the prevalence of rheumatoid arthritis is less than 1%.^[1,2,3] The extra-articular appearances are documented more for seropositive cases compared to seronegative cases.

Ophthalmic complications are one of the major extraarticular appearances of rheumatoid arthritis. A predominant ophthalmic problems of clinical importance are scleritis, episcleritis, keratoconjunctivitis sicca, keratitis, retinal vasculitis and glaucoma. Ocular expression of the disease may occur independently or in exacerbation of disease.^[4] Keratoconjunctivitis sicca appears secondary to reduced secretion from the lacrimal glands.^[5] And the resultant scleritis may be anterior and/or posterior. Anterior scleritis are of various types ranging from- diffuse, nodular, necrotizing with / without inflammation.^[6]

During regular clinical ocular examination, the subject may show sub-clinical Keratoconjunctivitis sicca, despite the patient being asymptomatic. The condition is of clinical relevance since, there are many relatively contraindication for ocular surgical procedures for such subjects.

The studies relating rheumatoid arthritis with ocular manifestation are sparse in India. Therefore, this

study aims to evaluate and diagnose with ocular involvement in rheumatoid arthritis.

MATERIALS AND METHODS

This was a prospective, cross sectional study, conducted in the department of ophthalmology, at Sri Krishna Medical College and Hospital, Muzaffarpur. The study was approved by the institutional research and ethical committee. The study was conducted over a period of 25 month from June 2020 to June 2022. An informed and written consent was obtained from the participating subjects prior to the commencement of study.

A total of 270 patients with rheumatoid arthritis were recruited for this study. The study subjects consisted of patients referred from rheumatologists or who had a history of rheumatoid arthritis and reported to the department of Ophthalmology. The study subjects were recruited irrespective of age and sex of the subject, and also duration and severity of the disease.

Inclusion Criteria

All the patients diagnosed with rheumatic disease were studied.

Exclusion Criteria

Patients with uncontrolled systemic disease, active tuberculosis, hypertension, any other infective disease.

Detailed history, systemic and ocular examination was performed. A complete hematological profile was evaluated. Ocular examination included documentation of best corrected visual acuity, examination of ocular adnexa, checking extraocular movements, pupil examination, and slit lamp examination, biomicroscopy, Intraocular pressure measurement, Schirmer's test for tear film adequacy, and ocular surface staining using 1% Rose Bengal test.

Statistical Analysis

The data was tabulated in Microsoft excel sheet and was subjected to statistical analysis using statistical analysis software, SPSS version 21.0.

RESULTS

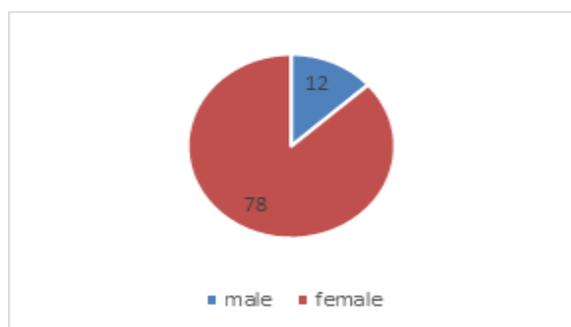


Figure 1: Distribution of Male and Female

Table 1: Ocular manifestations of rheumatoid arthritis.

Disease	Ocular manifestations	
	Present	Absent
Rheumatoid Arthritis Patients	106	064
270		

Table 2: Eye Involvement.

Manifestations	Patients
Unilateral	8
Bilateral	45

DISCUSSION

A total of 135 subjects were include to evaluate the ophthalmic symptoms in rheumatoid arthritis patients.

In the present study, the incidence of having ocular manifestations in rheumatoid arthritis was found to be 39%. This incidence was comparable to the previous study report of Reddy SC et al,^[7] while it was very high in other studies.^[8,9] Contrariwise, some studies reported a very low incidence in the range of 6.2% 5 to 20.8%.^[6] These low incidence of ophthalmic manifestations were found in retrospective studies. The relatively high incidence of having ocular manifestations in rheumatoid arthritis in the current study may be credited to the investigation based diagnostic findings.

Of the 49 %, almsr 80 percent subjects were females, this again shows gender bias of the disease. This result was in consonance with the previous many studies, where they found a female

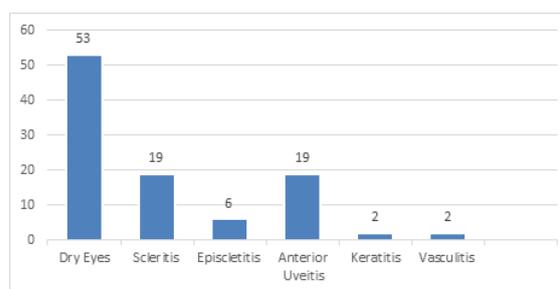


Figure 2: Ocular Manifestation

A total of 270 subjects with rheumatoid arthritis were evaluated for ocular manifestation. Of these, 106 patients presented with ocular manifestations. [Table 1]

The distribution of subjects amongst gender is shown in [Figure 1]. Females were affected more (n= 82) compared to males (n= 24).

A detailed ocular examination of the affected subjects showed – 56 subjects had dryness of eye, 20 had scleritis, 06 had episcleritis, 20 having anterior uveitis, 02 having keratitis and 01 vasculitis. [Figure2]

In the majority of subjects, there was bilateral eye involvement, while it was unilateral in only 08 subjects. [Table 2]

predominance for the ocular involvement of inflammatory auto immune disease.

In the present study, the symptom with highest percentage was kerato-conjunctivitis sikka. Kerato-conjunctivitis sikka was found in 53% of subjects, this was similar to the study findings of Vignesh AP et al,^[10] In our study, Anterior scleritis was found in all patients and eye redness was the primary sign.

Other ocular symptoms of scleritis included – tenderness, pain, photophobia and tearing. Scleritis, episcleritis, anterior uveitis, keratitis and vasculitis was found to be 19 %, 6 %, 19 %, 2 % and 1 % respectively. In majority of subjects there was bilateral ocular involvement.

In scleritis, the anterior segment bio microscopy examination showed, a very high congestion in the deep episcleral layer and mild congestion in the superficial episcleral layer. This finding was similar to previous literature report.^[11,12,13,14]

CONCLUSION

A significantly higher ocular involvement was found in the present study. Females were affected more compared to males and the bilateral involvement was common. kerato-conjunctivitis sicca was the most common finding. These significantly higher ocular involvement is alarming and must be addressed judiciously. If not treated judiciously and timely, it may cause permanent eye damage and blindness.

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