

A Hospital Based Prospective Study to Assess the Prevalence of Ocular Manifestations in Rheumatoid Arthritis Patients in Western Rajasthan at Newly Established Medical College

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Abstract

Background: Rheumatoid Arthritis (RA) is a chronic systemic autoimmune disease that affects approximately 1% of the adult U.S. population. The present study was undertaken for assessing the prevalence of ocular manifestations in rheumatoid arthritis patients in western Rajasthan at newly established medical college. **Materials & methods:** A total of 100 RA patients were enrolled. Complete demographic details of all the patients were obtained. Ophthalmological exam obtained: visual acuity by Snellen sings, biomicroscopy of anterior segment, Schirmer test, tear break-up time (BUT), applanation tonometry and indirect ophthalmoscopy. In all patients with retinal vasculitis fotofundus documentation, and in indicated case fluorescein angiography was done. Prevalence of ocular manifestations was recorded. **Results:** Out of these 100 patients, Ocular manifestations were seen in 29 percent of the patients. Keratoconjunctivitis sicca was the most common ocular manifestation found to be present in 18 patients. Episcleritis was the second most common found to be present in 7 patients. Scleritis and Keratitis were found to be present in 3 patients and 1 patient respectively. **Conclusion:** Ocular manifestations involved with RA are keratoconjunctivitis sicca, episcleritis, Scleritis corneal changes, and retinal vasculitis. Female predilection is mostly seen.

Key words: Rheumatoid Arthritis, Ocular.

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Introduction

Rheumatoid Arthritis (RA) is a chronic systemic autoimmune disease that affects approximately 1% of the adult U.S. population. The pathophysiology of RA involves chronic inflammation leading to proliferation of the synovium with subsequent cartilage damage and bony erosions. Ocular inflammation is an extra-articular manifestation of RA and can be the initial presentation of RA. It is important for the rheumatologist to understand the ocular diseases associated with RA such as keratoconjunctivitis sicca (KCS), episcleritis, scleritis, peripheral ulcerative keratitis (PUK), anterior uveitis, as well as retinal vasculitis. In fact, any component of the eye can be affected in RA. However, anterior eye involvement is the most frequently encountered in clinical practice [1-3]. The inflammatory arthropathies that affect the eye most commonly are RA, JRA, and the seronegative spondyloarthropathies. These conditions not only cause devastating systemic findings but can be the source of damaging ocular disease. The inflammatory nature of these entities, with the accompanying liberation of mediators of inflammation, can result in a cycle of tissue destruction that culminates in blindness.

The diseases reviewed can present first with systemic or ocular findings; thus, all physicians must be equipped with the appropriate knowledge to make accurate and timely diagnoses so that appropriate management strategies can be employed. The successful recognition and treatment of these conditions can prevent their associated systemic and ocular morbidity[4- 6].Hence; the present study was undertaken for assessing the prevalence of ocular manifestations in rheumatoid arthritis patients in western Rajasthan at newly established medical college.

Materials & methods

The present study was conducted in the Department of Ophthalmology, Government Medical College, Barmer, Rajasthan, India with the aim of assessing the prevalence of ocular manifestations in rheumatoid arthritis patients in western Rajasthan. A total of 100 RA patients were enrolled. Complete demographic details of all the patients were obtained. Ophthalmological exam obtained: visual acuity by Snellen sings, biomicroscopy of anterior segment, Schirmer test, tear break-up time (BUT), applanation tonometry and indirect ophthalmoscopy. In all patients with retinal vasculitis fotofundus documentation, and in indicated case fluorescein angiography was done. Prevalence of ocular manifestations was recorded. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results

In the present study, a total of 10 RA patients were analyzed. Mean age of the patients was 46.8 years. Out of 100 patients, 65 were females and 35 were males. Out of these 100 patients, Ocular manifestations were seen in 29 percent of the patients. Keratoconjunctivitis sicca was the most common ocular manifestation found to be present in 18 patients. Episcleritis was the second most common found to be present in 7 patients. Scleritis and Keratitis were

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found to be present in 3 patients and 1 patient respectively. Out of these 29 patients with ocular manifestations, 21 were females and 8 were males.

Table 1: Prevalence of ocular manifestations in RA patients

Variable	Number of patients	Percentage
Ocular manifestation present	29	29
Ocular manifestation absent	61	61

Table 2: Spectrum of ocular manifestations in RA patients

Spectrum of ocular manifestations	Number of patients	Percentage
Keratoconjunctivitis sicca	18	62.1
Episcleritis	7	24.1
Scleritis	3	10.3
Keratitis	1	3.5
Total	29	100

Discussion

Rheumatoid arthritis (RA) is a chronic progressive, antibody mediated autoimmune disease that primarily affects small joints. It also involves other organs and ophthalmic involvement is often significant, causing varying degrees of ocular morbidity. The eye is an important indicator of rheumatologic disease. A wide variety of ophthalmic clinical manifestations exist including inflammation of the cornea, conjunctiva, lacrimal gland, episclera, sclera, uvea (including anterior, intermediate, and posterior uveitis), and ophthalmic blood vessels. The most common presenting signs of inflammation of these structures include pain, photophobia, decreased vision, burning, itching, watering (epiphora), and redness. Various ocular signs and symptoms are characteristic of different rheumatologic diseases [6-10]. Hence; the present study was undertaken for assessing the prevalence of ocular manifestations in rheumatoid arthritis patients in western Rajasthan at newly established medical college.

In the present study, a total of 10 RA patients were analyzed. Mean age of the patients was 46.8 years. Out of 100 patients, 65 were females and 35 were males. Out of these 100 patients, Ocular manifestations were seen in 29 percent of the patients. Keratoconjunctivitis sicca was the most common ocular manifestation found to be present in 18 patients. Zlatanović G et al examined 691 patients with the diagnoses of RA. The most common manifestation of ocular involvement was keratoconjunctivitis sicca. Episcleritis was diagnosed in 5.06% patients with RA, while scleritis was present in 2.06% of patients. Diffuse scleritis was present in one patient, while nodular was present in 13 patients. There were no patients with posterior or necrotizing scleritis among examined patients. Sclerosing keratitis was diagnosed in 11 female patients. It is characterized with peripheral thickening and opacification of the stroma adjacent to the site of inflammation. Posterior scleritis or scleromalacia of cornea was not present in our patients, because all of them were in I or II stage of disease. Retinal vasculitis was present in three patients, two male and one female patient (0.45%). Ocular manifestation was present in 27.2% of patients. Women were more affected [10].

In the present study, Episcleritis was the second most common found to be present in 7 patients. Scleritis and Keratitis were found to be present in 3 patients and 1 patient respectively. Vignesh AP et al studied the ocular manifestations of rheumatoid arthritis and correlated the role of anti-cyclic citrullinated peptide antibody (anti-CCP antibody) with the ocular manifestations. Seventy-seven patients (135 eyes, 39%) out of the 196 patients studied had ocular manifestations typical of rheumatoid arthritis. Dry eye was the most common manifestation (28%, 54 patients). Of the patients, 78% were females (60 patients). The mean duration of rheumatoid arthritis in patients with ocular manifestations was 5.4±2.7 years and without ocular manifestations was 2.1±1.6 years. Three percent of the patients had episcleritis (six patients). Scleritis was present in 2% of the patients (four patients).

Peripheral ulcerative keratitis and sclerosing keratitis was present in 1% of the population each (two patients each). Eighty-five percent (66 patients) had bilateral manifestations 15% (eleven patients) had unilateral manifestations. There was a strong association between the presence of anti-CCP antibodies and ocular manifestations of rheumatoid arthritis which was shown by the statistically significant P-value of <0.0001. Ocular manifestations are a significant part of the extra-articular manifestation of rheumatoid arthritis. Dry eye was the most common ocular manifestation [11].

Conclusion

Ocular manifestations involved with RA are keratoconjunctivitis sicca, episcleritis, Scleritis corneal changes, and retinal vasculitis. Female predilection is mostly seen.

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