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Research Article

OCULAR COMPLICATIONS IN PATIENTS WITH AUTO IMMUNE INFLAMMATORY RHEUMATIC DISEASES

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A B S T R A C T

We have done a retrospective review of case records of patients with Auto immune inflammatory diseases (AIIRD) who attended a rheumatology clinic and analysed the ocular complications due to the AIIRD. Various ocular complications due to AIIRDs have been noted and literature review was done. There were 502 patients with AIIRD out of which 34 patients had ocular complications. Patients with Rheumatoid arthritis had dry eye disease as the commonest presentation. Acute anterior uveitis was seen 10% of patients with spondyloarthropathy. None of our patients with Psoriatic arthritis had ocular manifestation.

INTRODUCTION

Auto immune inflammatory Rheumatic diseases (AIIRD) may present with ophthalmic complications either during the course of the disease or as a presenting manifestation. AIIRD can affect Sclera, Conjunctiva, Retina or Uvea. Immuno suppressives are used according to the ophthalmic complications of AIIRDs. Early identification of the ophthalmic complications and the underlying AIIRD may have an impact on the prognosis. Because of its unique nature of the anatomy and the privileged immune system, the eye is susceptible to immunologic disorders, vascular irregularities, and various kinds of inflammation.

Aim

To study the various ocular complications of Auto immune inflammatory Rheumatic diseases.

MATERIALS AND METHODS

We have retrospectively reviewed the out patient records of 985 consecutive patients who attended a Rheumatology clinic from January 2019 to June 2019 .Case records of patients with auto immune inflammatory diseases (AIIRD) were analysed . Ocular complications were diagnosed by ophthalmologist either at the time of their visit to Rheumatology clinic or in the past. Demographic, clinical and Laboratory profile of patients with ocular complications were analysed during their first visit. Various Ocular complications were noted and the literature review was done.

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Out of 985 out patients 502 patients were diagnosed to have AIIRD. Out of 502 patients with AIIRD, 319 patients had Rheumatoid arthritis, 113 had spondyloarthropathy, 23 had Systemic Lupus erythematosus, 22 had Psoriatic arthritis (PsA). Juvenile idiopathic arthritis (JIA) was noted in13, Palindromic Rheumatism in 6, mixed connective tissue disease in 5. Primary Sjogren syndrome and Systemic sclerosis were seen in 4 each. Dermatomyositis, Takayasu arteritis, sarcoidosis and IBD associated arthritis were seen in 3 each. Overlap syndrome was seen in 2.Vogt-Koyanagi-Harada syndrome, Primary anti phospholipid syndrome, and adult onset Ig A vasculitis were seen in one each.

Out of 502 patients 34 had ophthalmic complications. Among the patients with ocular complications there were 9 males and 25 females. Mean age was 41 ± 11 yrs .Ten patients had Rheumatoid arthritis and 11 patients had spondylo arthropathy. SLE and Primary Sjogren Syndrome were seen in 3 each. Two patients had sarcoidosis. Mixed connective tissue disease (MCTD), Vogt-Koyanagi-Harada (VKH) syndrome, Relapsing polychondritis, Takayasu arteritis, Juvenile idiopathic arthritis were seen in one each.

Among the patients with Rheumatoid arthritis, Dry eye was noted in 8, nodular scleritis in 1 and cataract in 1.Acute anterior uveitis was noted in 11 patients with spondyloarthropathy out of which 7 patients had ankylosing spondylitis,3 had unclassified spondylo arthropathy and one was a case of JIA of enthesitis related type. Conjunctivitis was seen in one patient with reactive arthritis. Three patients with SLE had vitreous haemorrhage, optic neuritis and dry eye in one each. Three patients with Primary Sjogren Syndrome had dry eyes. Two patients with sarcoidosis had dacryo adenitis.

One patient with relapsing polychondritis had serpigenous choroiditis. Retinal detachment with bilateral anterior uveitis was seen in one patient with VKH syndrome. One patient with Takayasu arteritis had Vitreous haemorrhage (Table 1).

Table 1 Ocular complications in Auto immune inflammatory Rheumatic diseases

AIIRD	Ocular Manifestation	Number
Rheumatoid arthritis	Dry eye disease	8
(319)	Nodular scleritis	1
	cataract	1
AS	Acute anterior uveitis	7
Unclassified spA	Acute anterior uveitis	3
JIA-ERA	Acute anterior uveitis	1
Reactive arthritis	Conjunctivitis	1
SLE	Dry eye disease	1
	Vitreous haemorrhage	1
	Optic neuritis	1
Primary Sjogren syndrome	Dry eye disease	3
RP	Serpigenous choroiditis	1
Sarcoidosis	Dacryoadenitis	3
Takayasu arteritis	Vitreous hemorrhage	1

AS-Ankylosing spondylitis, RP-Relapsing Polychondritis,SLE-Systemic Lupus erythematosus

DISCUSSION

Ocular complications in AIIRD is seen in 4% of patients in a study involving 300 recent and consecutive rheumatology consultations from a large Veterans Administration Healthcare System [1].In our study 7% had ocular complications. Common complications in AIIRD are Keratoconjunctivitis sicca, anterior uveitis and scleritis.

Ocular manifestations involved with RA are keratoconjunctivitis sicca, episcleritis, scleritis corneal changes, and retinal vasculitis. They are reported in 27.2% of patients. Keratoconjunctivitis sicca is the commonest manifestation which is reported in 17.65% [2]. A study which analysed 143 consecutive RA patients found that 45% of them had subjective symptoms and 38% had objective signs of DED [3]. In Our study only 3% had ocular complications and dry eye disease (DED) was the commonest manifestation noted and there was only one case of scleritis. Anti-cyclic citrullinated (anti-CCP) peptide levels were reported to be significantly associated with ocular manifestations in RA [4].

In SLE, DED may be seen due to the involvement of both the main and the accessory lacrimal glands in one third of patients [5].Corneal involvement can occur in the form of superficial punctate keratitis and peripheral ulcerative keratitis [6]. Episcleritis and scleritis are unusual in SLE, and they may indicate the active disease [7]. Retinal complications are reported in 3 to 29% depending on the study population and the stage of the disease. Central retinal artery occlusion is commonly seen but both central retinal artery and vein occlusion can occur [8]. Purtscher's retinopathy which is a rare complication in SLE occurs due to the embolic occlusions of the precapillary arterioles caused by increased intracranial and intrathoracic pressure and secondary extravasation of fluid [9]. Rarely Choroidal involvement can also occur. Choroidopathy is less frequent compared to retinopathy and it could be an indirect evidence for the presence of renal involvement [10].Occlusion of small vessels due to immune complex mediated vasculitis may cause Ischemic optic neuropathy which gives rise to acute-onset and progressive visual impairment. Posterior subcapsular cataracts and secondary open-angle glaucoma may occur due to chronic steroid therapy. Prolonged intake of hydroxychloroquine (HCQ) sulfate is associated with vortex keratopathy and irreversible and sight-threatening maculopathy [11]. In our study out of 23 patients with SLE 13 % had ocular manifestations in the form of vitreous haemorrhage, DED, and optic neuritis in one each. Demyelinating illness was noted in the patient who had optic neuritis.

Acute anterior uveitis has a prevalence of around 30% in AS which is the most frequent ocular manifestation of AS [12]. AS is reported to be the second most frequent cause of uveitis with 16.8%, followed by HLA-B27-associated uveitis which was noted in 15.4% of patients [13].Apart from anterior uveitis, posterior synechiae, cataracts, elevated intraocular pressure with or without glaucoma, keratic precipitates, macular edema, and hypopyon were reported in 5-50% of patients. In a study involving HLA-B27-associated uveitis patients, the most frequent complication reported was diffuse vitritis (93.1%) followed by papillitis (82.7%). Cystoid macular edema (37.9%) and epiretinal membrane (17.2%) along with retinal vasculitis (24.1%) were also noted (14).In our study 10 % of AS patients had acute anterior uveitis. Conjunctivitis was noted in one patient out of 4 patients with reactive arthritis in our study.

Lambert and Wright studied 112 PsA patients and found that 31.25% of them had ocular changes. They reported conjunctivitis (19.6%) followed by iritis (7.1%), DED (2.7%), and episcleritis (1.8%) [15]. Psoriatic arthritis is reported to be more commonly associated with ocular complication than psoriasis [16].None of our patients with Psoriatic arthritis had any ocular manifestation. A study done in 175 patients with HLA-B27-associated anterior uveitis reported undifferentiated spondylo arthropathy in 12 % [17].In our study Out of 77 patients with undifferentiated spondyloarthritis only 3 patients had acute anterior uveitis.

Five out of 35 patients with Juvenile idiopathic arthritis had ocular complications in a study done by Menkes CJ *et al* [18]. In our study recurrent anterior uveitis was seen in one case of JIA -enthesitis related arthritis out of 13 patients with Juvenile idiopathic arthritis.

Sjögren syndrome is a systemic autoimmune disease characterized by lymphocytic infiltration of the salivary and lacrimal glands which leads to glandular injury and related dysfunction causing the symptoms of dry eyes and mouth.Dry eye, or keratoconjunctivitis sicca (KCS) is the most common ocular manifestation of SS [19]. Serious vision-threatening ocular complications including corneal melts [20], uveitis [21], scleritis [22], and optic neuritis [23,24] have also been reported. Three out of 4 patients with Primary Sjogren syndrome had DED in our study.

CONCLUSION

Spondyloarthropathies are seen in highest number of patients with ocular complications. Dry eye disease was the commonest ocular complication followed by acute anterior uveitis among the patients with AIIRD. There was a female preponderance among the patients with ocular manifestations.

References

1. Hamideh F1, Prete PE, Ophthalmologic manifestations of rheumatic diseases. Semin Arthritis Rheum. 2001 Feb;30(4):217-41.
2. .Gordana Zlatanović,1 Dragan Veselinović,2 Sonja Cekić,3,* Maja Živković,3 Jasmina Đorđević-Jocić,4 and Marko Zlatanović3 ,Ocular manifestation of rheumatoid arthritis-different forms and frequency**.** Bosn J Basic Med Sci. 2010 Nov; 10(4): 323-327.
3. Andonopoulos AP, Drosos AA, Skopouli FN, Acritidis NC, Moutsopoulos HM (1987) Secondary Sjögren's syndrome in rheumatoid arthritis. J Rheumatol 14:1098-1103
4. Vignesh AP, Srinivasan R (2015) Ocular manifestations of rheumatoid arthritis and their correlation with anti-cyclic citrullinated peptide antibodies. Clin Ophthalmol 9:393-397
5. Shoughy SS, Tabbara KF (2016) Ocular findings in systemic lupus erythematosus. Saudi J Ophthalmol 30:117-121
6. Silpa-archa S, Lee JJ, Foster CS (2016) Ocular manifestations in systemic lupus erythematosus. Br J Ophthalmol 100:135-141
7. Watson PG, Hayreh SS (1976) Scleritis and episcleritis. Br J Ophthalmol 60:163-191
8. Mendrinos E, Mavrakanas N, Kiel R, Pournaras CJ (2009) Bilateral combined central retinal artery and vein occlusion in systemic lupus erythematosus resulting in complete blindness. Eye (London) 23:1231-1232
9. Wu C, Dai R, Dong F, Wang Q (2014) Purtscher-like retinopathy in systemic lupus erythematosus. Am J Ophthalmol 158(1335-1341):e1
10. Baglio V, Gharbiya M, Balacco-Gabrieli C, Mascaro T, Gangemi C, Di Franco M *et al* (2011) Choroidopathy in patients with systemic lupus erythematosus with or without nephropathy. J Nephrol 24:522-529
11. Dammacco R,Systemic lupus erythematosus and ocular involvement: an overview.Clin Exp Med. 2018 May;18(2):135-149.
12. Cantini F, Nannini C, Cassarà E, Kaloudi O, Niccoli L (2015) Uveitis in Spondyloarthritis: an overview. J Rheumatol Suppl 93:27-29
13. Jakob E, Reuland MS, Mackensen F, Harsch N, Fleckenstein M, Lorenz HM *et al* (2009) Uveitis subtypes in a german interdisciplinary uveitis center-analysis of 1916 patients. J Rheumatol 36:127-136
14. Rodriguez A, Akova YA, Pedroza-Seres M, Foster CS (1994) Posterior segment ocular manifestations in patients with HLA-B27-associated uveitis. Ophthalmology 101:1267-1274
15. Lambert JR, Wright V (1976) Eye inflammation in psoriatic arthritis. Ann Rheum Dis 35:354-356
16. Abbouda A, Abicca I, Fabiani C, Scappatura N, Peña-García P, Scrivo R *et al* (2017) Psoriasis and psoriatic arthritis-related uveitis: different ophthalmological manifestations and ocular inflammation features. Semin Ophthalmol 32:715-720
17. Monnet D, Breban M, Hudry C, Dougados M, Brézin AP (2004) Ophthalmic findings and frequency of extraocular manifestations in patients with HLA-B27 uveitis: a study of 175 cases. Ophthalmology 111:802-809
18. Menkes CJ, Job-Deslandre C, Feldmann JL (1984) Juvenile-onset ankylosing spondylitis. Sem Hop 60:543-546
19. G.N. Foulks, S.L. Forstot, P.C. Donshik, J.Z. Forstot, M.H. Goldstein, M.A. Lemp, J.D. Nelson, K.K. Nichols, S.C. Pflugfelder, J.M. Tanzer, P. Asbell, K. Hammitt, D.S.Jacobs,Clinicalguidelines formanagement ofdryeyeassociated withSjogren disease, Ocular Surface 13 (2015) 118-132.
20. F.B. Vivino, P. Minerva, C.H. Huang, S.E. Orlin, Corneal melt as the initial presentation of primary Sjogren's syndrome, J Rheumatol 28 (2001) 379-382.
21. J.T. Rosenbaum, R.M. Bennett, Chronic anterior and posterior uveitis and primary Sjogren's syndrome, Am J Ophthalmol 104 (1987) 346-352.
22. W. Choi, S.S. Lee, Y.G. Park, K.C. Yoon, A case of necrotizing keratoscleritis in primary Sjogren's syndrome, Korean J Ophthalmol 25 (2011) 275-277.
23. J.Y. Sun, Z. Liu, P. Zhao, T. Liu, Optic neuritis as an initial presentation of primary Sjogren syndrome: A case report and literature review, Medicine (Baltimore) 95 (2016) e5194.
24. S. Gmuca, S.M. Lieberman, J. Mehta, Pediatric neuromyelitis optica spectrum disorder and Sjogren syndrome: more common than previously thought? J Rheumatol 44 (2017) 959-960.
25. Esen F1, Ergelen R2, Alibaz-Öner F3, Çelik G3, Direskeneli H3, Kazokoğlu H4, Ocular findings and blood flow in patients with Takayasu arteritis: a cross-sectional study. Br J Ophthalmol. 2019 Jul;103(7):928-932.

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