Original Research Article

Clinical study of posterior uveitis in a tertiary care hospital

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Abstract

Background: Posterior uveitis can have inflammation involving adjacent structures such as the retina, vitreous, optic nerve head, retinal vessels, along with choroidal inflammation. Symptoms of uveitis are pain, redness, photophobia, lacrimation and defective vision while signs are lid edema, circumcorneal congestion, corneal edema, keratic precipitates.[3] In present study, we aimed to analyse etiology of posterior uveitis in a tertiary care hospital. **Material and Methods:** Present study was a descriptive, retrospective study conducted in department of ophthalmology. The clinical data of all patients of posterior uveitis from January 2019 and December 2019 were studied. Data was collected and statistical analysis was done using descriptive statistics. **Results:** During study period total 54 patients were diagnosed as case of posterior uveitis. Most common age group was 20-40 years (54%), more common in male patients (59%). Male to female ratio was 1.45:1. Unilateral disease was noted in 94% patients and majority (87%) had acute presentation. Infective etiology was noted in 26% patients as tuberculosis (13%), toxoplasmosis (9%), cytomegalovirus (CMV) retinitis (2%) and dengue retinal vasculitis (2%). While idiopathic etiology was labelled in 24% patients. Other causes were vasculitis (13%), Vogt-Koyanagi-Harada (VKH) (9%), multifocal choroiditis (9%), neuroretinitis (6%), serpiginous choroiditis (4%), multiple evanescent white dot syndrome (MEWDS) (4%), birdshot retinopathy (4%) and systemic lupus erythematosus (SLE) (2%) **Conclusion:** Posterior uveits needs proper clinical diagnosis, based on epidemiological data, history, systemic symptoms and signs, and the pattern of ocular. Though idiopathic cases are commonly noted, still treatment outcome is mainly based on identification of etiology whenever present.

Keywords: Choroiditis, posterior uveitis, toxoplasmosis, tuberculosis, Vogt-Koyanagi-Harada

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INTRODUCTION

Uvea is a highly vascular layer that lines the sclera and its principal function is to provide nutrition to the eye. Uveal tract consists of iris, ciliary body and choroid. Uveitis is defined as the inflammation of the entire uveal tract affecting any of its three constituents- iris, ciliary body or choroid. Many systemic diseases may have uveitis as their presenting feature and diagnosing them early can prevent their progression.[1] Uveitis includes a large number of intraocular inflammatory conditions of different etiologies. The standardization of uveitis nomenclature (SUN) working group classifies uveitis according to the site of primary inflammation as “anterior uveitis,” “intermediate uveitis,” “posterior uveitis,” and “panuveitis.”[2] Posterior uveitis can have inflammation involving adjacent structures such as the retina, vitreous, optic nerve head, retinal vessels, along with choroidal inflammation. Symptoms of uveitis are pain, redness, photophobia, lacrimation and defective vision while signs are lid edema, circumcorneal congestion, corneal edema, keratic precipitates.[3] In present study, we aimed to analyse etiology of posterior uveitis in a tertiary care hospital

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MATERIAL AND METHODS

Present study was a descriptive, retrospective study conducted in Department of Ophthalmology, Belgaum Institute of Medical Sciences, Belagavi. The clinical data of all patients of posterior uveitis from January 2019 and December 2019 were studied. Institutional ethics committee approval was taken for present study. All patients had a comprehensive eye examination and a thorough systemic evaluation. Laboratory investigations such as CBC, ESR, urine analysis, Mantoux skin test, VDRL, Treponema pallidum haemagglutination test (TPHA), TORCH profile, ELISA for Toxoplasma, HIV, RA factor, QuantiFERON-TB GOLD test were noted. Complete ophthalmic examination including visual acuity, slit lamp examination, applanation tonometry, dilated fundus examination with 90 diopter (D), and indirect ophthalmoscope was done in all cases. Other investigations such as chest X-rays, X-rays of sacroiliac joints and knee joints, fundus fluorescein angiography (FFA), optical coherence tomography, ultrasound B scan (USG), HLA typing and serum ACE levels were done whenever needed. Idiopathic posterior uveitis was referred to cases where no specific cause could be attributed to an infective cause, any underlying systemic disease, or any specific ocular cause. Data was collected and statistical analysis was done using descriptive statistics.

RESULTS

During study period total 54 patients were diagnosed as case of posterior uveitis. Most common age group was 20-40 years (54%), more common in male patients (59%). Male to female ratio was 1.45:1. Unilateral disease was noted in 94% patients and majority (87%) had acute presentation.

Table 1: General characteristics of the patients

Characteristic	Number	(%)
Age (in years)		
20-40	29	54%
41-60	16	30%
61-80	9	17%
Gender		
Male	32	59%
Female	22	41%
Laterality		
Unilateral	51	94%
Bilateral	3	6%
Clinical presentation		
Acute	47	87%
Chronic	6	11%
Recurrent	1	2%

Infective etiology was noted in 26% patients as tuberculosis (13%), toxoplasmosis (9%), cytomegalovirus (CMV) retinitis (2%) and dengue retinal vasculitis (2%). While idiopathic etiology was labelled in 24% patients. Other causes were vasculitis (13%), Vogt-Koyanagi-Harada (VKH) (9%), multifocal choroiditis (9%), neuroretinitis (6%), serpiginous choroiditis (4%), multiple evanescent white dot syndrome (MEWDS) (4%), birdshot retinopathy (4%) and systemic lupus erythematosus (SLE) (2%)

Table 2: Types of posterior uveitis

Etiological classification	Number of patients	Percentage
Idiopathic	13	24%
Vasculitis	7	13%
Tuberculosis	7	13%
Vogt-Koyanagi-Harada (VKH)	5	9%
Multifocal choroiditis	5	9%
Toxoplasmosis	5	9%
Neuroretinitis	3	6%
Serpiginous choroiditis	2	4%
Multiple evanescent white dot syndrome (MEWDS)	2	4%
Birdshot retinopathy	2	4%
Cytomegalovirus (CMV) retinitis	1	2%
Systemic lupus erythematosus (SLE)	1	2%
Dengue retinal vasculitis	1	2%

DISCUSSION

Posterior uveitis accounts for 10.3-38.4% of the total number of uveitis cases.[4] Posterior uveitis may be insidious in onset, or have an acute presentation with floaters and blurred vision. Posterior uveitis may present with vitritis, choroiditis, retinitis or retinovasculitis. Decrease in visual acuity may occur due to different causes like the proximity to macula, sequelae of choroidal or retinal neovascularisation, epiretinal membrane formation or cystoid macular edema.[4] Uveitis can have severe sequelae like posterior synechiae formation, cataract, cystoid macular edema, glaucoma, visual impairment. Upto 25% of irreversible blindness in India and other developing countries is due to uveitis.[5] In study by Irengbam Supriya *et al*..,[6] specific diagnosis of posterior uveitis was made in 72 cases. The most commonly diagnosed cause of posterior uveitis was toxoplasmosis 42 cases, followed by tuberculosis 16 and viral retinochoroiditis 13 and 1 case of parasitic post uveitis. Others being idiopathic chorioditis and idiopathic vasculitis. While Aluisio R[7] studied posterior uveitis patients, 66.6% of patients were male, with an average age of 45.18 (± 2.49), and 50% of them presented active disease during the ophthalmologic treatment. Infectious causes were the main responsible (50%), and toxoplasmosis was the main one, with 6 patients affected. 83.3% of cases were classified in the clinical profile as being non-granulomatous. Lodhi SA[8] studied 101 patients, there were 55.5% males and 44.5%

females. A specific diagnosis could be established in 75% of the patients, including infections in 19 cases (18%), specific ocular disease in 45 cases (44.5%). Idiopathic group comprised 25 cases (24.75%). In the infective group, tuberculosis was more than toxoplasmosis. Vogt-Koyanagi-Harada (VKH) cases, presenting as posterior uveitis, comprised 19 cases (18.8%). Tuberculosis and toxoplasmosis were the common infective causes, and VKH, multifocal choroiditis, and serpiginous choroidopathy were the common noninfective entities. Similar findings were noted in present study. Toxoplasma related retinochoroiditis is caused by Toxoplasma gondii, an obligate intracellular parasite which causes progressive intraocular infection. This accounts for 30-55% of posterior uveitis and is a major cause of visual impairment.[9] Ocular toxoplasmosis probably is the most prevalent form of infectious posterior uveitis in the world. Toxoplasmosis is an endemic disease in most countries of the world, with large population involved especially young adult population.[10] Acquired toxoplasmosis in immunocompetent adults is subclinical in 80-90%. Reactivation at previously inactive cyst-containing scars is he rule in the immunocompetent. 'Spill over' anterior uveitis may be granulomatous and resembles Fuchs uveitis syndrome with elevated IOP. Vitritis may be severe and impair fundus visualization. White retinal inflammatory nidus is viewed as 'Headlight in the fog'.[10] Although idiopathic Posterior uveitis is reportedly the commonest cause, in India, studies by Rathinam (4.5%)[11] and Das D (8.5%)[12] have showed that the most common identifiable cause of posterior uveitis is toxoplasmosis. Idiopathic uveitis comprised 3-78% of posterior uveitis in the systemic review by Chang ,*et al.*. The specific etiology of posterior uveitis are infective causes like toxoplasmosis, toxocariasis, tuberculosis, syphilis, bartonellosis, viral infections like Herpes simplex, Varicella zoster, Cytomegalovirus and HIV. The non-infectious types of posterior uveitis include the white dot syndromes like Acute posterior multifocal placoid pigment epitheliopathy(APMPPE), Multiple evanescent white dot syndrome(MEWDS), Geographic helicoid peripapillary choroidopathy(GHPC), Multifocal choroiditis(MFC), Punctate inner choroidopathy(PIC), Birdshot choroidopathy, Subretinal fibrosis and uveitis syndrome(SFU), Diffuse unilateral subacute neuroretinitis (DUSN) and Retinal pigment epithelitis (Krill's disease.[13] Tuberculosis (TB) can present as acute, chronic or recurrent uveitis. Ocular manifestations may be caused by an active infection that invades the eye or by a delayed type IV hypersensitivity immunological reaction to various antigenic components of the mycobacteria, in the absence of the infectious agent. In India, where pulmonary tuberculosis is endemic, incidence of TB as a cause among patients presenting with uveitis is variable (0.6%-10.1%). The most common clinical presentations is posterior uveitis, followed by anterior uveitis, pan uveitis, and intermediate uveitis.[14,15] Reliable positive PCR results on aqueous humour analysis in the detection of posterior uveitis due to tuberculosis have been reported by Rao *et al.*[16] Posterior segment lesions are more common in AIDS than anterior segment manifestations and can lead to severe ocular morbidity, often irreversible. Cytomegalovirus is the most common infectious agent affecting the posterior segment. It is seen in 15-40% of the patients. If the infection does not involve the posterior pole, patient may be asymptomatic or present with decreased vision. Symptom of floaters could be an early indication of the disease, although vitritis occurs occasionally only. Ultrasound is a safe, non-invasive, dynamic tool for the evaluation of the posterior segment when direct visualization of the fundus is obscured due to severe inflammation or its complications. It is useful also for the evaluation of inflammatory infiltration of the choroids in VKH syndrome or sympathetic ophthalmia (SO).[17]

CONCLUSION

Posterior uveitis needs proper clinical diagnosis, based on epidemiological data, history, systemic symptoms and signs, and the pattern of ocular. Though idiopathic cases are commonly noted, still treatment outcome is mainly based on identification of etiology whenever present.

REFERENCES

1. Tegginamatha N, Shanthaveerappa P, Parappallil R. The clinical profile and aetiological pattern of anterior uveitis-A hospital based study. Indian J Clin Exp Ophthalmol 2020;6(1):99-102.
2. Jabs DA, Nussenblatt RB, Rosenbaum JT; Standardization of Uveitis Nomenclature (SUN) Working Group. Standardization of uveitis nomenclature for reporting clinical data. Results of the First International Workshop. Am J Ophthalmol 2005;140:509-16.
3. Sudharshan S, Ganesh SK, Biswas J. Current approach in the diagnosis and management of posterior uveitis. Indian J Ophthalmol 2010;58:29-43.
4. Thorne JE, Wittenberg S, Jabs DA, Peters GB, Reed TL, Kedhar SR, *et al.*. Multifocal choroiditis with panuveitis incidence of ocular complications and of loss of visual acuity. Ophthalmology. 2006 Dec;113(12):2310–6.
5. Rao NA. Uveitis in developing countries. Indian J Ophthalmol. 2013 Jun;61(6):253–4.
6. Irengbam Supriya, Nameirakpam Mamota, Ahanthem Suchitra Devi, Sonam Gelek Palzang, The Patterns of Uveitis Presenting at a Tertiary Care Facility in Imphal, Manipur, OSR Journal of Dental and Medical Sciences15,(12), December. 2016), PP 38-42
7. Aluisio Rosa Gameiro Filho, Aline Fernandes de Albuquerque, Diogo Gonçalves dos Santos Martins, Daniella Socci da Costa, Epidemiological analysis of cases

of uveitis in a tertiary Hospital, Rev Bras Oftalmol. 2017; 76 (4): 181-5
8. Lodhi SA, Reddy SG, Maryam A. Pattern of posterior uveitis in a tertiary care government eye hospital in South India. J Clin Ophthalmol Res 2017;5:73-6
9. Park Y-H, Nam H-W. Clinical Features and Treatment of Ocular Toxoplasmosis. Korean J Parasitol. 2013 Aug;51(4):393–9.
10. Tabatabaei S, Soleimani M, Foroutan A, Ahmadabadi M, Zarei R, Piri N, *et al.*. Ocular toxoplasmosis in Iran: 40 cases analysis. Int J Ophthalmol 2011;4:199-201.
11. Rathinam SR, Global variation and pattern changes in epidemiology of uveitis, Indian J Ophthalmol, 55(3), 2007, 173-183.
12. Das D, Bhattacharjee H, Patterns of uveitis in North East India, A tertiary eye care center study, Indian J Ophthalmol, 57(2), 2009, 144-6.
13. Chang JH-M, Wakefield D. Uveitis: a global perspective. Ocul Immunol Inflamm. 2002 Dec;10(4):263–79.
14. Singh R, Gupta V, Gupta A. Pattern of uveitis in a referral eye clinic in north India. Indian J Ophthalmol. 2004 Jun;52(2):121–5.
15. Biswas J, Narain S, Das D, Ganesh SK. Pattern of uveitis in a referral uveitis clinic in India. Int Ophthalmol. 1996 1997;20(4):223–8.
16. Rao NA. Uveitis in developing countries. Indian J Ophthalmol 2013;61:253-4.
17. Ciardella AP, Borodoker N, Costa DL, Huang SJ, Cunningham ET Jr, Slakter JS. Imaging the posterior segment in uveitis. Ophthalmol Clin North Am 2002;15:281-96.

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