

# Clinical Profile of Patients with Uveitis – A Hospital-based Study

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## Abstract

**Background:** Uveitis is a worldwide prevalent disease that mainly affects young people. It is one of the leading causes of visual impairment and blindness. The underlying etiology of uveitis shows a wide regional variation. An understanding of the clinical and microbial profile of uveitis helps us in improved management of this sight-threatening condition.

**Material and Methods:** Our study is a prospective, observational, and hospital-based study of 70 patients suffering from uveitis, conducted in the Eye Department of R. D. Gardi Medical College, Ujjain, India. All patients underwent comprehensive ocular examination as well as laboratory investigation.

**Results:** In Our study, 70 patients with uveitis were enrolled. About 45 (64.3%) were male patients while 25 (35.7%) were females. Anterior uveitis was found in 39 patients (55.7%). About 21 patients (30%) had posterior uveitis and 8 patients (11.4%) had intermediate uveitis. Acute anterior uveitis was found in 30 patients (76.9%) whereas 6 patients (15.4%) had chronic uveitis and only 3 patients (7.7%) had recurrent uveitis. The majority of patients 32 (82%) had non-granulomatous uveitis and 7 patients (18%) had granulomatous uveitis. On examination, 53 eyes (46.14%) had visual acuity between 3/60 and 6/60. About 36 eyes (25.71%) had visual acuity between 6/36 and 6/24. Only 7 eyes (5%) had visual acuity <3/60, it shows that uveitis causes visual impairment as well as blindness.

**Conclusion:** Anterior uveitis was the most common type of uveitis found in our study. Timely detection and appropriate management are recommended to prevent prolonged ocular morbidity and blindness.

**Key words:** Blindness, Choroid, Ciliary body, Inflammation, Uveitis

## INTRODUCTION

The uveal tissue which comprises of iris, ciliary body, and choroid is a very vascular tissue which is predisposed to inflammation. Inflammation of uveal tract is called uveitis and prevalence of uveitis varies world over from region to region. This uveitis can be anterior uveitis, intermediate uveitis, posterior uveitis, and panuveitis.

Uveitis affects both males as well as females only the ratio may vary. The prevalence of uveitis varies in different

regions of the world. Uveitis is the fifth most common cause of visual loss in the developed world accounting for nearly 10–15% cases of total blindness.<sup>[1]</sup>

The etiology of uveitis ranges from non-infectious cause to infectious causes. Tuberculosis, syphilis, arthritis, toxoplasmosis, sarcoidosis, and autoimmune disease are some of the leading causes of uveitis. Systemic diseases play an important role in etiology of uveitis. Uveitis is a disease if not detected and treated properly will result in blindness. World over it has been found that uveitis contributed to 0.7% of worldwide blindness.<sup>[2]</sup>

In this study, we aim to understand the epidemiology, the predisposing factors, clinical profile, and the outcome of uveitis patients presenting to our hospital, which is a tertiary care hospital located in the state of Madhya Pradesh in Central India.

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**MATERIALS AND METHODS**

Our study is a prospective, observational, and hospital-based study conducted in the Department of Ophthalmology, R. D. Gardi Medical College, Ujjain, Madhya Pradesh, India, over a period of 1.5 years. Prior approval for the study was obtained from the Institutional Ethics Committee. Seventy patients found to be suffering from uveitis were included in the study.

A written informed consent was obtained from each patient. The preliminary data of patients such as name, age, sex, and occupation were recorded first. Occupation was specially noted as uveitis cases are directly linked to occupation of patients. A detailed history was taken, with regard to the chief complaint, past history, and any other disease.

All the patients underwent a detailed and comprehensive ocular examination. Ophthalmic examination included a record of the unaided visual acuity as well as the best corrected visual acuity. Slit lamp examination was done specially cornea to look for corneal edema, corneal opacities, Keratic precipitates. KP's if found were recorded as to whether they were fine KP's, mutton fat, and old or fresh KP's. The anterior chamber was specially examined for presence of aqueous cells, flare, hypopyon, or hyphema. Iris was examined for color, pattern, synechiae, iris atrophy, rubeosis iridis, and iris bombe. IOP was noted, fundus examination was done. After detailed examination of patients, we use Standardization of Uveitis Nomenclature (SUN) for knowing the type of uveitis.

Laboratory investigations such as CBC, ESR, blood sugar, urine routine microscopy, RA factor, VDRL, ELISA, TORCH, and X-ray were done.

Patients were properly diagnosed according to the type of uveitis and proper treatment was initiated in all patients depending on underlying etiology. All patients were regularly follow-up at 1 week and 4 week interval.

**Exclusion Criteria**

- Patients with central corneal opacity where examination of uveal tissue is not possible will be excluded from the study.
- Pregnant females will be excluded from the study.
- Patients with phthisis bulbi and atrophic bulbi will be excluded from the study.
- Patients who are on treatment with cytotoxic drugs or immune suppressant's will be excluded from the study.

**RESULTS**

Our study was a hospital-based study, in which, 70 patients suffering from uveitis were included in the study. We found

that uveitis was more predominantly seen in male patient 45 (64.3%) as compared to 25 (35.7%) female patients [Table 1]. About 42 patients (60%) belong to age group of 20–40 years which suggests that uveitis is a disease affecting young individuals predominantly. In our study, 23 (32.9%) patients were laborers, 22 (31.4%) patients were field workers, and 42 (60%) patients belong to low socioeconomic group.

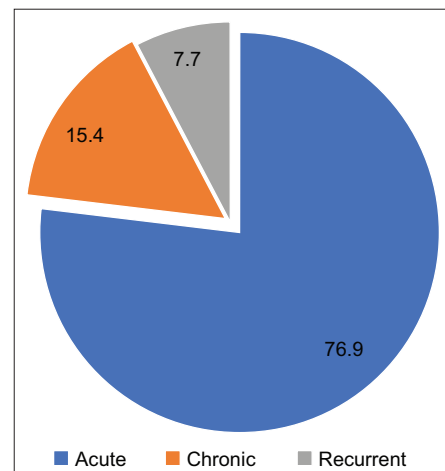
In our study, 39 patients (55.7%) had anterior uveitis, 21 patients (30%) had posterior uveitis, and 8 patients (11.4%) had intermediate uveitis. Only 2 patients (2.9%) had panuveitis [Table 2]. Out of 39 patients with anterior uveitis, 30 patient (76.9%) had acute anterior uveitis whereas 6 (15.4%) patients had chronic and only 3 (7.7%) had recurrent uveitis [Figure 1]. We also found that 32 (82%) patients had non-granulomatous uveitis and 7 (18%) had granulomatous uveitis. We found that 29 eyes (20.71%) showed fine KPs while large mutton fat KPs were seen in 7 eyes (5%). Old KPs were seen in 3 eyes (2.14%). In our study, 15 eyes (10.7%) had aqueous cells

**Table 1: Sex distribution of patients in study group (n=70 patients)**

Sex	Number of patients	Percentage
Male	45	64.3
Female	25	35.7
Total	70	100

**Table 2: Type of uveitis in patients in our study group (n=70 patients)**

Diagnosis	Number of patients	Percentage
Anterior	39	55.7
Intermediate	8	11.4
Posterior	21	30
Panuveitis	2	2.9
Total	70	100



**Figure 1: Distribution of Anterior Uveitis in study group(n = 39)**

between 1 and 5, 11 eyes (7.85%) had cells between 6 and 15. About 6 eyes (4.28%) had aqueous cells between 26 and 50 and only three eyes had cells over 50. Faint flare was present in 5 eyes (3.5%) whereas moderate flare was present in 19 eyes (13.57%) where as intense flare was present in 11 eyes (7.85%). About 7 eyes (5%) showed presence of thick broad based synechiae whereas 15 eyes (10.7%) showed thin synechiae. On fundus examination, 5 eyes (3.57%) showed patches of active choroiditis, 11 eyes (7.85%) showed patches of active chorioretinitis, and 3 eyes (2.14%) showed evidence of snow banking. Vitritis was present in five eyes. On examination, 53 eyes (46.14%) had visual acuity between 3/60 and 6/60. About 36 eyes (25.71%) had visual acuity between 6/36 and 6/24. Only 7 eyes (5%) had visual acuity <3/60, it shows that uveitis causes visual impairment as well as blindness ( $P = 0.016$ ).

We found that 41 patients (58.6%) were suffering idiopathic uveitis, 5 patients (7.1%) showed autoimmune disorder as underlying etiology. Bacterial and viral infections were seen in 8 (11.4%) and 4 (5.7%) patients, respectively [Table 3]. Thirty-nine patients suffering from anterior uveitis were managed with topical steroids and cycloplegic, whereas all 21 patients suffering from posterior uveitis required systemic steroids as well as topical steroids for the management [Table 4]. In our study, out of 70 patients, 5 (7.14%) patients had cystoid macular edema, 7 (10%) patients had glaucoma while phthisis bulbi and retinal detachment were seen in one patient, respectively [Figure 2].

## DISCUSSION

Uveal tract is composed of iris, ciliary body, and choroid and is highly predisposed to inflammation on account of its vascularity. The prevalence of uveitis varies worldwide and requires numerous investigations to reach the etiological diagnosis.

In our study, we found that uveitis is a disease affecting young individuals predominantly, 42 patients (60%) belong to age group of 20–40 years. Similarly Filho *et al.* in their

study found that 7% patients were up to 16 years of age, 28.5% were between 17 and 40 years of age while 63.5% were over 40 years of age and suggested that uveitis is more common in adults between 17 and 60 years of age.<sup>[3]</sup>

We found that uveitis was more predominantly seen in male patient 45 (64.3%) as compared to 25 (35.7%) female patients. This result of our study proves the fact that there is a significant male predisposition for uveitis. This result is comparable to Ayanru *et al.* in which they found that male to female ratio was 2:1. Furthermore, Venkatesh *et al.* in their study of 161 patients found 114 patients to be male as compared to 47 females suffering from uveitis. This clearly suggests about male preponderance for uveitis.<sup>[4]</sup> Uveitis can occur in any individual irrespective of the type of occupation.

In our study, 39 patients (55.7%) had anterior uveitis, 21 patients (30%) had posterior uveitis, and 8 patients (11.4%) had intermediate uveitis. Only 2 patients (2.9%) had panuveitis according to the SUN classification. Similarly Ebrahim *et al.* in their study show anterior uveitis (49.6%) as the most common form of uveitis followed by posterior uveitis (15.5%). They also quoted in their study that idiopathic uveitis was the most common form of anterior uveitis.<sup>[5]</sup> Furthermore, Singh *et al.* studied 1233 patients and found anterior uveitis as the most common type of uveitis.<sup>[6]</sup>

Uveitis is the most complicated disease which has got a very varied etiology and in many cases it is impossible to

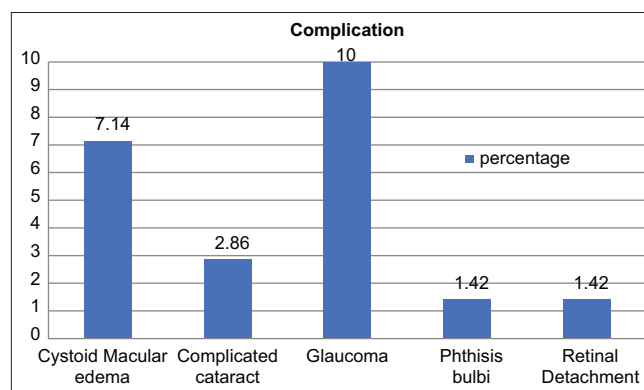


Figure 2: Distribution Of complication associated with uveitis in study group (n = 70)

Table 3: Etiology of uveitis in patients in study group (n=70 patients)

Etiology	Number of patients	Percentage
Idiopathic	41	58.6
Autoimmune disorder	5	7.1
Bacterial infection	8	11.4
Viral infection	4	5.7
Fungal infection	0	0
Post-surgical uveitis	4	5.7
Toxoplasma	6	8.6
Post-traumatic	2	2.9
Total	70	100

Table 4: Management done of patients in study group

Management done	Ant.	Inter.	Post.	Pan.	Total	Percent
Topical steroids with cycloplegics	37	0	0	0	37	52.8
Steroid injection (periocular/intraocular)	2	5	0	0	7	10
Topical steroids with systemic steroids	0	3	21	2	26	37.2
Total	39	8	21	2	70	100

find an etiology associated with development of uveitis. These etiological agents may be infective or non-infective in nature. Anesi and Foster in their study of anterior uveitis quoted that a large number cases are idiopathic and many cases are attributed to herpes simplex virus or trauma to eye.<sup>[7]</sup> Furthermore, Khairallah *et al.* in their study found that frequency of idiopathic uveitis was 37.9%. The result of above mentioned study correlates with our study where we found out of 39 patients of anterior uveitis 28 (71.79%) were idiopathic, 5 out of 8 patients (62.5%) patients of intermediate uveitis were idiopathic and 8 (38.09%) out of 21 patients with posterior uveitis had toxoplasmosis as underlying etiology.<sup>[2]</sup>

In our study, anterior uveitis was seen in 39 patients out of 70 patients and most of these patients showed evidence of keratin precipitates, aqueous cells, and flare. About 29 (20.71%) showed fine KPs while large mutton fat KPs were seen in 7 eyes (5%). Old KPs were seen in 3 eyes (2.14%). This shows that fine KPs were more common in patients with anterior uveitis. About 15 eyes (10.7%) had aqueous cells between 1 and 5. About 11 eyes (7.85%) had cells between 6 and 15 (4.28%), 6 eyes (4.28%) had aqueous cells between 26 and 50, and only 3 eyes (2.14%) had cells over 50. Ninety-three eyes did not have any aqueous cells. Seven eyes showed presence of thick broad based synechiae whereas 15 eyes (10.7%) showed presence of thin synechiae. On fundus examination, 5 eyes (3.57%) showed patches of active choroiditis, 11 eyes (7.85%) showed patches of active chorioretinitis, and 3 eyes (2.14%) showed evidence of snow banking. Vitritis was present in five eyes. On examination, 53 eyes (46.14%) had visual acuity between 3/60 and 6/60. About 36 eyes (25.71%) had visual acuity between 6/36 and 6/24. Only 7 eyes (5%) had visual acuity <3/60, it shows that uveitis causes visual impairment as well as blindness ( $P = 0.016$ ). These results of our study collaborate with the results of Hogan *et al.* (1959).<sup>[8]</sup>

Thirty-nine patients suffering from anterior uveitis were managed with topical steroids and cycloplegic, whereas all 21 patients suffering from posterior uveitis required systemic steroids as well as topical steroids for the management [Table 4]. In our study, out of 70 patients, 5 (7.14%) patients had cystoid macular edema, 7 (10%) patients had glaucoma while phthisis bulbi and retinal detachment were seen in one patient, respectively. This result of our study suggests that steroids play a very strong role in the management of uveitis and this result of our

study commensurate with the study of Bartlett and Jaanus.<sup>[9]</sup> We recommend that steroids should be used properly in the management of uveitis but special precaution taken regarding rise of intraocular pressure.

## CONCLUSION

Our study was a hospital-based study, in which, 70 patients suffering from uveitis were included in the study. We found that uveitis was more predominantly seen in male patient 45 (64.3%). About 42 patients (60%) belong to age group of 20–40 years. In our study, 42 (60%) patients belong to low socioeconomic group. In our study, 39 patients (55.7%) had anterior uveitis, 21 patients (30%) had posterior uveitis, and 8 patients (11.4%) had intermediate uveitis. Only 2 patients (2.9%) had panuveitis. We found that 41 patients (58.6%) were suffering idiopathic uveitis, 39 patients suffering from anterior uveitis were managed with topical steroids and cycloplegic, whereas all 21 patients suffering from posterior uveitis required systemic steroids as well as topical steroids for the management.

Our study recommends that patients with uveitis should undergo comprehensive ocular and systemic investigations to find the underlying etiology. All the patients must be managed according to the type of uveitis, they are suffering from and a watch should be kept on all the possible likely complications which will help a lot in preventing blindness from uveitis.

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