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Original Research Paper

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"CLINICAL PROFILE OF ANTERIOR UVEITIS: A CROSS-SECTIONAL STUDY IN A TEACHING HOSPITAL OF NORTH EAST, INDIA."

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ABSTRACT

Background: Uveitis, a complex intraocular inflammatory disease results from several etiological entities. The cause of inflammation might be infectious agent or trauma, but in most cases the underlying mechanism appears to be autoimmune in nature. Anterior uveitis is most common form of uveitis and accounts for an annual incidence rate of about 17 cases per 1, 00,000 populations. Objective of this study is to evaluate the etiological pattern, treatment and its outcome and complications of anterior uveitis. **Materials and Methods:** All cases of Anterior Uveitis attending IPD & OPD the Department of Ophthalmology of AGMC & GBP Hospital during the one and half years study period were enrolled in this study as per census sampling technique. As in last two consecutive years, per year there were around 35 anterior uveitis cases enrolled in IPD & OPD register of Department of Ophthalmology. So in one and half years study period approximately 50 cases of Anterior Uveitis were included in this study. **Results:** The present study was conducted in the Department of Ophthalmology, AGMC, Agartala, Tripura, 50 patients in the age group of 20-80 yrs were studied. It was seen most commonly in 20-40 years age group, accounting for 64%. It was less common in patients over 60 years (10%). Males accounted 56% and females accounted 44%. Hence males were affected more than females. Incidence of anterior uveitis was highest amongst the laborers (48%), followed by officials (22%), then housewives (20%) and less common among businessman (6%) and students (4%). Unilateral involvement was seen in 90% of cases and bilateral involvement in 10% of cases. Unilateral involvement was more than bilateral involvement. Most common presentation was acute anterior uveitis, accounting for 76%, and then chronic 18% and only 6% of the patients had recurrent anterior uveitis. Non- granulomatous inflammation was more common than granulomatous inflammation. In this study etiology remained idiopathic in 21 (42%) cases and specific diagnosis was reached in 29 (58%) cases. Most common complication was cataract seen in 13 eyes. **Conclusion:** Etiological diagnosis remains idiopathic in most cases. 2nd most common cause in present study was blunt trauma followed by phacolytic anterior uveitis.

KEYWORDS :

INTRODUCTION

Uveitis is one of the most common form of intraocular inflammation and affects mainly children and young adults. It includes a large group of intraocular inflammatory diseases of diverse etiology. On several occasions, it reflects diseases that are developing elsewhere in the body and uveitis may be the first evidence of such systemic diseases[1]. Variation in the spectrum of disease is largely due to complex geographic, ecological, racial, nutritional and socioeconomic differences. The anterior uveitis is the most common type of all uveitic entities at about 57.4%. On the basis of overall clinical presentation, acute unilateral, noninfectious and non-granulomatous forms occur more frequently. Idiopathic anterior uveitis is more common in all age groups. Mean age at presentation is about 38.3 years and commonly affects middleaged (17-59 years) individuals. It is more common in males about 61.3% compared to females about 38.6% [2].

The precise cause of anterior uveitis is often obscure and the correct diagnosis is often challenging. The cause of inflammation might be infections agent or trauma, but in most cases the underlying mechanism appears to be autoimmune in nature[3]. In order to enhance understanding and management of ocular inflammation, International Ocular Inflammation Society (IOIS) has been founded[4]. Anterior uveitis ismost common form of uveitis and accounts for an annual incidence rate of about 17 cases per 1,00,000 populations[5].

I. MATERIAL AND METHODS

Study Design: Hospital based observational study.

Type Of Study: Descriptive study.

Study Location: Department of Ophthalmology in OPD & IPD, AGMC & GBP Hospital.

Study Duration: Two years (2019-2021)

Study Population:
All Anterior Uveitis patients attending the Department of Ophthalmology of Agartala Government Medical College & GBP Hospital during the study period.

Sample Size:
All cases of Anterior Uveitis attending IPD & OPD the Department of Ophthalmology of AGMC & GBP Hospital during the one and half years study period were enrolled in this study as per census sampling technique. As in last two consecutive years, per year there were around 35 anterior

uveitis cases enrolled in IPD & OPD register of Department of Ophthalmology. So in two years study period about 50 cases of Anterior Uveitis were included in this study.

Sampling Technique: Census sampling technique was used in this study.

Study Tools:
1) Case record proforma. 2) Snellen's Chart. 3) Near Vision test type book 4) Slit lamp examination with +90D lens. 5) Direct & Indirect Ophthalmoscope with +20D lens. 6) IOP with Applanation tonometry and NCT.

Inclusion Criteria:
All patients who were present to the Department of Ophthalmology in OPD & IPD; aged 20 years or above, with anterior uveitis characterized by pain, blurred vision, photophobia, cilliary congestion, tenderness, keratic precipitates, aqueous flare and cells and posterior synechia were included in this study.

Exclusion Criteria:
Patients who were not willing to give consent to participate in this study. Patients aged less than 20 years. Uveitis developing after intraocular surgeries.

Patients presenting with intermediate and posterior uveitis. Sympathetic ophthalmitis.

Operational Definition:
Anterior Uveitis was defined as presence of corneal edema, keratic precipitates, muddy colour iris, posterior synechia and lens pigmentation.

Data Collection Methods:
Patients coming to OPD & IPD Department of Ophthalmology, Agartala Government Medical College and GB Pant Hospital were subjected for this study. Informed consent was obtained after informing the study subjects the details of the procedure. After obtaining the informed consent from the subject, him/her were included in the study. After detailed history, past and family history patient has undergone complete slit lamp examination.

A short differential diagnosis was made in each case. Subsequently, a tailored laboratory investigation was carried out. Investigations included, total and differential counts, RBS, erythrocyte sedimentation rate, urine and stool examination, Mantoux test. Serological tests for syphilis, HIV, rheumatoid factor, HLA B27 were all cases. Radiological investigations included x-ray of chest, lumbosacral and knee joints. Other special investigations were considered whenever necessary. Final etiological diagnosis was made based on history, clinical features, laboratory investigations and systemic evaluation.

Data Analysis:
All data was recorded in the Proforma designed specifically for this study (Appendix I). On completion of the study, data was entered into Microsoft excel spreadsheet for analysis. Data was recorded, entered and analyzed with computer using SPSS version 15.0 and Epi-info-version-7. Descriptive statistics and other statistical tests like Chi square test; binary logistic regression analysis etc was used as per applicability.

Ethical Consideration:
Informed written consent was obtained from each and every participant as per modified ICMR template. Confidentiality was ensured while collecting and analysing the data and was used for research purpose only. Approval was obtained from the Institutional Ethics Committee of Agartala Government Medical College.

II. RESULT

The present study was conducted in the Department of Ophthalmology, AGMC, Agartala, Tripura, 50 patients in the age group of 20-80 yrs were studied and during the study following observations were made.

Table 1: Age Distribution

Sl. No.	Age (yrs)	Number	Percentage
1	20-30	20	40
2	31-40	12	24
3	41-50	8	16
4	51-60	5	10
5	61-70	3	6
6	71-80	2	4

In present study anterior uveitis accounted to 40% in 20- 30 years age group, 24% in 31- 40 years age, 16% in 41- 50 years age, 10% in 51- 60 years age, 6% in 61-70 years age and 4% in 71-80 years age group. It was seen most commonly in 20-40 year age group, accounting for 64%. It was less common in patients over 60 years (10%).

Table 2: Sex Distribution

Sl. No.	Sex	Number	Percentage
1	Male	28	56
2	Female	22	44

In the present study males accounted 56% and females accounted 44%. Hence males were affected more than females.

Table 3: Occupation

Sl. No.	Occupation	Number	Percentage
1	Labourers	24	48
2	Officials	11	22
3	Housewives	10	20
4	Business	3	6
5	Student	2	4

In the present study incidence of anterior uveitis was highest amongst the labourer (48%), followed by officials (22%), then housewives (20%) and less common among businessman (6%) and students (4%).

Table 4 : Laterality

Sl. No.	Age (yrs)	Number	Percentage
1	Unilateral	45	90
2	Bilateral	5	10
Total		50	100

In the present study unilateral involvement was seen in 90% of cases and bilateral involvement in 10% of cases. Unilateral involvement was more than bilateral involvement.

Table 5: Clinical Presentation

Sl. No.	Presentation	Number	Percentage
1	Acute	38	76
2	Chronic	9	18
3	Recurrent	3	6
Total		50	100

In the present study it was observed that most common presentation was acute anterior uveitis, accounting for 76%, then chronic 18% and only 6% of the patients had recurrent anterior uveitis.

Table 6: Type Of Inflammation

Sl. No.	Type	Number	Percentage
1	Nongranulomatous	45	90
2	Granulomatous	5	10
Total		50	100

In the present study 45 (90%) patients had non-granulomatous inflammation and in 5 (10%) patients it was granulomatous inflammation. Thus non-granulomatous inflammation was

more common than granulomatous inflammation.

Table 7: Etiological Distribution

Sl. No.	Etiology	Number	Percentage
1	Idiopathic	21	42
2	Blunt trauma	10	20
3	Phacolytic	6	12
4	Herpes zoster	5	10
5	Tuberculosis	3	6
6	Septic focus	1	2
7	Iridocyclitis associated with arthritis	1	2
8	Fuchs' heterochromic iridocyclitis	1	2
9	Leprosy	1	2
10	Inflammatory bowel disease	1	2

In this study etiology remained idiopathic in 21 (42%) cases and specific diagnosis wasreached in 29 (58%) cases. Anterior uveitis following blunt trauma was seen in 10 cases (20%) and phacolytic uveitis was detected in 6 cases (12%), Herpes zoster was responsible in 5 (10%) cases and tuberculosis in 3 (6%) cases. Iridocyclitis associated with arthritis, Septic focus, Fuchs' heterochromic iridocyclitis, leprosy and inflammatory bowel disease was observed in 1 case (2%) each.

8. Complications

Sl. No.	Complications	No. of eyes	Percentage
1	No complications	23	41.82
2	Cataract	13	23.64
3	Secondary glaucoma	8	14.54
4	Iris atrophy	7	12.73
5	Macular edema	3	5.45
6	Choroiditis	1	1.82

In the present study complications were observed in 18 eyes (32.72%). Most common complication was cataract seen in 13 eyes (23.64%), secondary glaucoma in 8 eyes (14.54%), iris atrophy in 7 eyes (12.73%) followed by macular edema in 3 eyes (5.45%) and choroiditis in 1 eye (1.82%). Most of the eyes which had complications had more than one complication.

III. DISCUSSION

The present study was conducted in the Department of Ophthalmology, AGMC, and GBP Hospital during the period of December 2019 to May 2021 and fifty cases of anterior uveitis were studied. The incidence was found to be high between 20-40 years of age (64%) and less common over sixty years (10%). Idiopathic anterior uveitis was the commonest cause which can be explained by high antigenicity found in this age group. In older age group anterior uveitis was usually of phacolytic origin. It was observed that males were affected more (56%) compared to females (44%). This may be because men tend to seek medical attention more often than women and socio- economic habits may put male patients at a greater risk for development of anterior uveitis. In Rathinam et al study 61.3% were males and 38.7%were females. Alezandro Rodriguez et al reported 38.9% male and 61.1% femaleinvolvement in their study. Majority of patients were labourers (46%). Most common cause of anterior uveitis in labourers was blunt trauma.

This may be due to occupational exposure. Majority of patients came with unilateral presentation (90%). This finding was comparable with that of Rathinam et al study (85.3%). However there was no significant predilection for either the right or left eye. The most common presentation was acute iridocyclitis (76%)then chronic (18%) and recurrent iridocyclitis (6%). Rathinam et al reported 71.9% acute, 24.3% chronic and 3.8% recurrent. The findings are comparable in both the studies. In this study 45 patients (90%) had non-granulomatous inflammation and in 5 patients (10%) it was granulomatous. Findings are comparable with studies conducted by Rathinam et al and Alezandro Rodriguez et al . Out of 5 granulomatous inflammation 4 were chronic and 1 patient had recurrent presentation. Granulomatous type of inflammation was observed in three patients of tuberculosis, one patient of herpes and one patient of leprosy. In the present study blunt trauma (20%) was the most common cause of anterior uveitis followed by phacolytic (12%) aetiology. Although herpes zoster accounted for 10% of the cases, which is comparable with other two studies conducted by Rathinam et al and Alezandro Rodriguez et al. where it stood first, is not the most common in present study. However it was the most common infectious cause in our study. 6% of the patients had tubercular anterior uveitis which is comparable with Rathinam et al and Singh et al study, whereas there is no data in Henderly et al study. This difference may be because all other studies were conducted at referral centers, where cases usually chronic and recurrent ones are referred from primary and secondary centers. Whereas present study was done in a ophthalmic opd clinic and most people were from villages and towns. In the present study, uveitis was found to be associated with diabetes mellitus in five patients (10%) and hypertension in two (4%) patients. All those who had diabetes mellitus were above 50 years of age. Three out of five diabetes mellitus patients had chronic uveitis. In a study of uveitis presenting in elderly, it was noted that diabetes should probably be considered a risk factor for uveitis development. In few eyes with complicated cataract or macular edema, visual acuity improved only marginally. No complications were seen in 37 eyes (67.27%). Complications were commonly noted in chronic and recurrent cases. Most common complication observed was complicated cataract in 13 eyes (23.64%), Secondary glaucoma in 8 eyes (14.54%). Iris atrophy was seen in 7 eyes (12.73%), which included 2 herpetic eyes, both the eyes in a psoriatic patient, two idiopathic and one eye in TB anterior uveitis. Macular edema was seen in 3 eyes (5.45%), two of them in a leprosy patient and the third was in a herpetic patient and choroiditis was seen in 1 eye (1.82%)..All patients were treated medically by topical steroids and cycloplegics-mydriatics. Treatment with antibiotics, antitubercular drugs, and antiviral drugs were considered in appropriate cases. Periocular and systemic steroids were used in cases with severe inflammation which was not controlled by topical steroids. A case of visually significant complicated cataract underwent synechiaeotomy and extracapsular cataract extraction with posterior chamber intraocular lens implantation.Cataract extraction with posterior chamber intraocular lens implantation was done in all cases of phacolytic anterior uveitis.

IV. CONCLUSION

A clinical prospective study of 50 patients clinically presenting with anterior uveitis was done. All patients underwent a thorough systemic and ocular examination. Tailored laboratory investigations were done in each case to facilitate diagnosis. Patients were followed up at regular intervals overa period of 6 months. Aetiology remained idiopathic in most cases. 2nd most common cause in presentstudy was blunt trauma followed by phacolytic anterior uveitis. Most common complications were complicated cataract and secondary glaucoma.

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