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Original Article

A Clinical Study on Anterior Uveitis in a Tertiary Eye Care Centre with Special Reference to Management

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ABSTRACT

Aim: The aim of the study is to determine the occurrence of anterior uveitis and its management. The study included 50 cases with 62 eyes with signs and symptoms of anterior uveitis, attending the OPD of RIO, Gauhati Medical College and Hospital over a period of one year. A detailed history taken, proper ocular and systemic examination were done. Laboratory and other special investigations were performed. The patients were then treated accordingly. Following treatment, 62.90% eyes regained visual acquity(VA) of 6/9 or better with maximum eyes having VA of 6/6 at final visit with 38.71%.Therefore, identification of specific aetiology with prompt and adequate treatment will result in good visual outcome and prevent complications.

Key Words: *Uveitis, arthritis, inflammation*

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INTRODUCTION

Inflammatory state of the uveal tract, the highly vascular middle layer of the eyeball that includes iris, ciliary body and choroid is termed as uveitis. Anatomically, it can be classified as anterior uveitis, intermediate uveitis, posterior uveitis and panuveitis depending on the part of the uveal tract that is predominantly involved which may be acute, chronic or recurrent[1].

Anterior uveitis is the commonest among the different types of uveitis, accounting for 47.1% [2]. Efforts have been made to describe its aetiology but even today it still remains elusive. Based on aetiology, uveitis can be classified as infectious, non infectious with a known systemic cause or without any systemic association i. e. idiopathic [3].

Anterior uveitis can be managed with medical therapy with topical corticosteroids and cycloplegics and will require surgical intervention only if structural complications occur which may be cataract or secondary glaucoma[4].

The treatment itself causes certain complications, both ocular and systemic which may add to its morbidity[5,6].

MATERIALS AND METHODS

This study included 50 cases with 62 eyes of anterior uveitis presenting in the OPD of Regional Institute of Ophthalmology(RIO), Gauhati Medical College and Hospital over a period of one year.

Selection criteria:

A. ***Inclusion criteria:*** All patients≥18 years with features of anterior uveitis that includes symptoms like pain, photophobia, redness, lacrimation, blurring of vision and signs like circumcorneal congestion, corneal oedema, keratic precipitates, aqueous cells and flares, hypopyon, iris nodules, posterior synechiae.

B. ***Exclusion criteria:*** Patients below 18 years of age, intermediate uveitis, posterior uveitis, post-operative uveitis, sympathetic ophthalmitis, Masquerade Syndromes, diabetes, post-laser uveitis.

A detailed history taken, proper ocular examination and investigations were done Any systemic associations were looked for with consultation with a concerned specialists.

Examination:

Ophthalmological examination:

a) External examination: Lid oedema, circumcorneal congestion, iris pattern, hypopyon, pupillary reaction, synechiae etc.
b) Slit-lamp examination: Corneal oedema, keratic precipitates, aqueous flare and cells ,nodules, synechiae, iris neovascularisation
c) Tonometry.
d) Lacrimal syringing.
e) Gonioscopy.
f) Fundus
g) Optical Coherence Tomography(OCT)
h) USG B-scan

Systemic examination: Dermatological, rheumatological, genital, gastrointestinal and neurological examination were done to rule out any systemic association.

Blood examination: TLC,DLC,ESR,CRP,Hb,RBS, Serumcreatinine, LFT, Serum protein estimation, Urine and stool examination were done.

Radiological examination:
a. Chest X-Ray (P.A view) for signs of old or active tuberculosis lesions or sarcoidosis.
b. X-ray paranasal sinuses.
c. X-ray of the joints, limbs, vertebrae, sacroiliac joints.

Special tests: Venereal Diseases Research Laboratory test(V.D.R.L), Mantoux test, Test for Rheumatoid factor (RF), Antinuclear antibodies (ANA), anti double-stranded DNA(Anti ds-DNA) and antineutrophil cytoplasmic antibodies(ANCA), HLA-B27 typing, Angiotensin Converting Enzyme(ACE) levels, Antistreptolysin O titre (ASO Titre) done.

All the patients were treated with topical corticosteroids (prednisolone acetate 1%), topical cycloplegic drugs (atropine 1% or homatropine). Oral steroids were administered in severe cases not responding adequately to topical and other medications and patients with cystoid macular oedema.

Specific treatment were given like Anti-Tubercular Therapy (ATT), anti-virals, anti-leprosy; systemic antimicrobials in infectious cases and those who had undergone cataract surgery. Those having associated lenticular opacities were taken up for cataract surgery, and anti-glaucoma agents were given in secondary glaucoma cases. Follow-up done after one week of initial presentation, then after two weeks, six weeks and after three months.

Treatment response was monitored with assessment of visual acquity and grading of anterior chamber flare and cells. Evidence for adverse effects of corticosteroids and immunosuppressants was looked for. Complications, if any were recorded followed by its treatment.

RESULTS AND OBSERVATIONS

1. **Age distribution:**

Table 1: Age Distribution.

Age-group(years).	Number of cases.	Percentage(%).
<20	1	2
21-30	21	42
31-40	13	26
41-50	9	18
51-60	4	8
>60	2	4

2. **Sex Distribution:**

Table 2: Gender Distribution:

Gender.	Number of cases.	Percentage. (%)
Male.	31	62%
Female.	19	38%

3. **Laterality:**

Table 3: Laterality.

Laterality.	Number of cases.	Percentage.(%)
Unilateral.	38	76%
Bilateral.	12	24%

4. **Course of anterior uveitis**:

Table 4: Clinical Presentation.

Presentation.	Number of cases.	Percentage(%).
Acute.	33	66
Chronic.	10	20
Recurrent.	7	14

5. **Visual Acquity(V_A):**

Following treatment, visual acquity has improved in almost all eyes except in cases where complication has already been developed due to recurrent attacks, and inadequate treatment, at the time of presentation.

Table 5: visual Acquity Before and After Treatment

Visual Acquity.	Before treatment.		After treatment.	
	Number of eyes.	Percentage(%)	Number of eyes.	Percentage(%)
6/6	4	6.45	24	38.71
6/9	10	16.13	15	24.19
6/12	17	27.42	9	14.51
6/18	8	12.91	4	6.45
6/24	6	9.68	3	4.84
6/36	5	8.06	2	3.23
6/60	4	6.45	2	3.23
FC-HMCF	5	8.06	3	4.84
PL+	3	4.84	-	-

6. **Gonioscopy**: There were3 eyes with peripheral anterior synechiae; 7 eyes with narrow angle and the rest had normal open angle anterior chamber.
7. **Fundus examination:** 7 eyes had vitreous exudates with snow ball or snow banking in 2 of them, 4 eyes with glaucomatous cupping; 2 bilateral cases showed healed choroidal scar; 11 cases(15 eyes) had lenticular opacities. In 2 cases with band shaped keratopathy, fundoscopy could not be done. The rest 30 eyes were normal.
8. **Optical coherence tomography:**We found one case with cystoid macular oedema.
9. **Investigations:**

a) ***Test for Syphilis*:** 2 cases were reactive for syphilis.
b) ***Test for Rheumatoid factor:*** 1 case was found to be Rheumatoid factor positive.
c) ***Mantoux test:*** 9 cases tested positive, among which 6 were diagnosed with tuberculosis, rest 3 were false positive cases.
d) ***Antinuclear Antibody and Anti ds-DNA:***1 case was positive for ANA and anti ds-DNA.
e) ***HLA typing:*** One case was found to be HLA-B27 positive.
f) ***ASO titre estimation:***

Table 6: Antistreptolysin O Titre

ASO titre (IU)	Number of cases.
100-200	11
200	1
200-300	3

g) ***Radiological examination:*** Chest X-ray(PA view) of 4 cases showed signs of healed tuberculosis; 2 cases with chronic obstructive airway disease changes, rest were normal, 10 cases with evidence of inflammatory arthritis and 2 cases had obvious bony deformities.

10. Treatment

Table 7: Treatment Given.

Treatment.	Number.	Percentage(%).
Topical Corticosteroids.	50	100
Cycloplegics.	50	100
Systemic corticosteroids.	20	40
Periocular steroids.	4	8
Anti-glaucoma.	5	10
Anti-viral.	4	8
Anti-tubercular.	6	12
Antibiotics.	10	20
Immunomodulators.	4	8
Cataract surgery.	6 (8eyes)	12
Anti leprosy.	1	2

DISCUSSION

1. **Age**: There were total 34 cases (68%) in the age-group of 21-40 years with majority in the second decade (21-30 years) similar to the study by KM SudhaMadhaviet al[7], with majority(63.8%) in the age range of 20-40 years.
2. **Sex:** There were 31 male (62%) and 19 female cases(38%). Male preponderance is seen, similar to the study by KM SudhaMadhaviet al[7] with 55.75% male and 44.25% females.
3. **Laterality:**Here, unilateral and bilateral involvement is seen in 76% and 24% cases respectively with similaruniocular(89.66%) involvement in a study by KM SudhaMadhavi et al [7].
4. **Visual acquity:** Majority had V_A of 6/12 (27.42%) or worse (total=77.42%) at the time of presentation. 16.13% eyes presented with a V_A of 6/9 and 4.84% had only perception of light at initial presentation.

Following treatment, maximum(38.71%) regained their V_A of 6/6; 24.19% eyes regained 6/9$V_{A,}$ being the second best corrected visual acquity. Good visual acquity were thus regained in 62.90% eyes.

KM Sudha Madhavi et al [7].reported maximum patients with V_A of 6/12 or worse (total=87.02%) at presentation but also regained best corrected visual acquity of 6/9 or better in 70.8% cases.

Treatment: All patients were treated with topical corticosteroids and cycloplegics which remain the mainstay of treatment of uveitis. Systemic steroids were given in 40% cases; periocular steroids were given in 8%, anti-glaucoma in 10%; anti-tubercular treatment in 12%; anti-viral in 8%; antibiotics in 20%; anti-leprosy in 2%, immunomodulators in 8% and cataract surgery with posterior chamber intraocular lens implantation were performed in 8 eyes with lenticular opacities.

Naik et al[5].also treated all patientswith topical corticosteroids and cycloplegics. However, rest of the treatment differs from our study with only few similar results due to the difference in aetiological findings like systemic steroids were used in 14.16% cases, anti-glaucoma in 12.39%, anti-tubercular treatment in 6.19%, anti-viral in 15.93%, anti-leprosy in 2.66%, antibiotics in 20.35%, and cataract surgery in 19.47% cases [5].

KM SudhaMadhavi et al[7].treated all patients with topical steroids(prednisolone acetate %) and topical cycloplegics(atropine or homatropine). Specific treatment was provided like antimicrobials for infectious uveitis, systemic and periocularsteroids in more severe cases and those not responding to the topical treatment.

CONCLUSION

From the study, it has been observed that anterior uveitis, having varied aetiology, the aetiology remained unidentified in majority (44%) of cases.

The chronicity of the disease and those with delayed treatment are prone to a number of complications which require more aggressive therapy. However, early recognition and prompt and adequate treatment will lead to not only less complication but will prevent recurrences and will result in good visual outcome.

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