Original Research Paper

Volume - 11 | Issue - 10 | October - 2021 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

Ophthalmology

A CLINICAL STUDY ON ANTERIOR UVEITIS IN A TERTIARY EYE CARE CENTRE WITH SPECIAL REFERENCE TO AETIOLOGY.

Dr. Pankaj Baruah	Assistant Professor, RIO, GMCH.
Dr. Mevis Ponglo	Department Of Ophthalmology, RIO, GMCH.
Dr. Bharati Gogoi	Professor And HOD, RIO, GMCH.
Dr. Gitikash Purkayastha*	Registrar, RIO, GMCH. *Corresponding Author

ABSTRACT The main aim is to determine the possible aetiology of anterior uveitis cases.The study included 50 cases and/or 62 eyes with signs and symptoms of anterior uveitis, attending the Out Patient Department of Regional Institute of Ophthalmology (RIO), Gauhati Medical College and Hospital over a period of one year. A detailed history was taken, proper ocular and systemic examination were done.Idiopathic anterior uveitis was the most common aetiology; tuberculosis, being the commonest among the infectious cause, and inflammatory arthritis among the non-infectious category.Therefore, identification of specific aetiology with prompt and adequate treatment will result in good visual outcome and prevent complications.

KEYWORDS : Uveitis, iridocyclitis, arthritis, inflammation.

INTRODUCTION:

Uveitis is one of the commonest forms of intraocular inflammation with diverse aetiology, the subject being first documented by Ebers-Papyrus[1] of ancient Egypt.Anterior uveitis is the commonest among the different types of uveitis, which accounts for 47.1%.[2] It commonly presents as unilateral entity with pain, photophobia, circumcorneal congestion, and aqueous cells and flare.

Efforts have been made by different workers to describe its aetiology but even today it still remains elusive. Among the infectious cause, it can be viral, bacterial, spirochetal and parasitic and non-infectious causes are often related to systemic rheumatology and autoimmune diseases such as ankylosing spondylitis, HLA-B27 related disease, Behcet's Disease, Vogt-Koyanagi-Harada disease (VKH), sarcoidosis, juvenile idiopathic arthritis (JIA), multiple sclerosis (MS), Wegener's Granulomatosis and other undifferentiated connective tissue disorders.[3] Despite the considerable progress in understanding the aetiopathogenesis of uveitis and the availability of newer diagnostic techniques, the aetiology of many still remains unidentified.[2,4]

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, Serum creatinine, 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:

Occupation:

Table 1: Occupation:

Occupation.	Number of cases.	Percentage(%).
Housewives.	15	30
Officials.	7	14
Students.	9	18
Business.	5	10
Labourers.	14	28

Type of Inflammation:

Table 2: Type Of Inflammation.

Type.	Number of cases.	Percentage(%).
Non-granulomatous	40	80
Granulomatous	10	20

Investigations:

***a. Test for Syphilis*:** 2 cases were found reactive.
b. Test for Rheumatoid factor: 1 case was found Rheumatoid factor positive.
c. Mantoux test: 9 cases tested positive, among which 6 were diagnosed as tuberculosis, rest 3 were false positive.
d. ANA and Anti ds-DNA: One case was positive for ANA and anti ds-DNA.
e. HLA typing: One case was HLA-B27 positive.
f. ASO titre estimation: 11 cases had titre within 100-200 IU, 1 borderline and 3 positive titre (>200).
g. Radiological examination: We had 4 cases with signs of healed tuberculosis; 2 with chronic obstructive airway disease; 10 cases with inflammatory arthritis and 2 had obvious bony deformities.

Aetiological Distribution Of Patients:

Table 4: Aetiology

Aetiology.	Number.	Percentage(%).
Tuberculosis.	6	12
Herpes zoster.	4	8
Iridocyclitis associated with arthritis.	10	20
Septic foci.	3	6
Drug-induced.	2	4
Syphilis.	2	4
Idiopathic.	22	44
Hansen's Disease.	1	2

DISCUSSION:

Occupation:

Housewives(30%) are the most affected occupation, followed by labourers/ wage earners(28%) and the least were business persons(10%).

But majority(47.7%) were labourers in a study in middle Karnataka in 2015.[5] Naik et al.[6] found labourers(43.36%) as the most vulnerable group and students the least(4.42%) while housewives rank third. In these studies, blunt trauma was a common cause of anterior uveitis that probably made labourers a vulnerable group.

Type Of Inflammation:

Non-granulomatous(80%) type were more common, very similar to studies by Shivcharan Lal Chandrayanshi[8] and that from Karnataka in 2020[10], with 73.11% and 86% cases respectively. KM Sudha Madhavi et al.[5] found 89.66% non-granulomatous inflammation. Naik et al.[6] and Rathinam et al.[7] also showed more non-granulomatous inflammation with 90.27% and 81.2% respectively.

Aetiology:

Tuberculosis(12%) remains the most common infectious cause of anterior uveitis, followed by herpes zoster(8%). Similarly, Prashant et al.[2] found ocular tubercular uveitis responsible for majority(46.29%) of the infectious aetiology(n=54) which is 11.90% of total uveitis cases(n=210); herpes zoster as the second commonnest cause with 38.88% of infectious aetiology which is 10% of total uveitis cases.

Also, Singh et al.[4] reported tuberculosis(7.9%), and ankylosing spondylitis (13.2%) as the most common infectious and non-infectious aetiology respectively.

Shivcharan Lal Chandrayanshi[8] found tubercular uveitis the commonest (22.16%), followed by syphilis(3.77%).

But KM Sudha Madhavi et al.[5] and Nithisha et al.[9] in 2020, found herpetic anterior uveitis as the commonest cause.

Inflammatory arthritis(20%) is the most common non-infectious cause, which ranks second overall. Prashant et al.[2] found similar results where spondyloarthropathy(7.61%) ranks first. A study from North-East India reported seronegative spondyloarthropathy the commonest with 23.44%.[10]

However, in our study, idiopathic anterior uveitis(44%) was the most common aetiology. Aetiology remained unknown in 59.31% cases in a study from 1996.[11] KM Sudha Madhavi et al.[5] and Naik et al.[6] reported 42% and 30.09% idiopathic cases respectively. 79% cases were idiopathic in a recent study by Hina et al.[12] in New Delhi.

Rathinam et al.[7] found idiopathic(44.6%) aetiology as the commonest; leptospirosis(9.7%) was the most common infectious cause, followed by tuberculosis(5.6%) and herpetic(4.9%) which differs from our study.

CONCLUSION:

From the study, it has been observed that anterior uveitis, having varied aetiology, it was possible to arrive at a specific aetiology in 56% cases, which can further be divided into many different causes. The aetiology remained unidentified in majority (44%) of cases. Therefore, a detailed and proper history, complete ophthalmological examination, laboratory investigations and systemic evaluation are the key to a final aetiological diagnosis.

Their identification with prompt and adequate treatment will result in good visual outcome and thus, prevent complications.

REFERENCES:

1. Ebers-Papyrus. (C-1500 B.C) : Quoted from Duke-Elders system of Ophthalmology; Vol. IX;page 39:1971; published in U.S.A. by the Mosby Company, St. Louis.
2. Borde P, Priyanka KK, Takkar B, Sharma B. Pattern of uveitis in a tertiary eye care center of central India: Results of a prospective patient database over a period of two years. Indian Journal of Ophthalmology. 2020 Mar;68(3):476.
3. Hsu YR, Huang JC, Tao Y, Kaburaki T, Lee CS, Lin TC, Hsu CC, Chiou SH, Hwang DK. Noninfectious uveitis in the Asia–Pacific region. Eye. 2019 Jan;33(1):66-77.
4. Singh R, Gupta V, Gupta A. Pattern of uveitis in a referral eye clinic in north India. Indian journal of ophthalmology. 2004 Jun 1;52(2):121.
5. Madhavi KS, Kumaraswamy RC. Study of clinical and aetiological pattern of anterior uveitis in middle Karnataka.CHRISMED Journal of Health and Research. 2015 Apr 1;2(2):124.
6. Mishra BP, Sahu SK, Naik C, Dany SS. INCIDENCE, ETIOLOGY AND MANAGEMENT OF ACUTE ANTERIOR UVEITIS: A HOSPITAL BASED STUDY. European Journal of Biomedical. 2018;5(11):317-21.
7. Rathinam SR, Namperumalsamy P. Global variation and pattern changes in epidemiology of uveitis. Indian journal of ophthalmology. 2007 May 1;55(3):173.
8. Chandravanshi SL. Demographic and Clinical Profile of Anterior Uveitis Patients Presenting in a Tertiary Eye Care Hospital. International Journal of Innovative Research in Medical Science. 2018 Jan 25;3(01):1675-to.
9. Tegginamatha N, Shanthaveerappa P, Parappallil R. The clinical profile and aetiological pattern of anterior uveitis-A hospital based study. Indian Journal of Clinical and Experimental Ophthalmology. 2020;6(1):99-102.
10. Das D, Bhattacharjee H, Bhattacharyya PK, Jain L, Panicker MJ, Das K, Deka AC. Pattern of uveitis in North East India: a tertiary eye care center study. Indian Journal of Ophthalmology. 2009 Mar;57(2):144.
11. Biswas J, Narain S, Das D, Ganesh SK. Pattern of uveitis in a referral uveitis clinic in India. International ophthalmology. 1996 Jul 1;20(4):223-8.
12. Kauser H, Islam F, Khan T, Gupta VS, Kochar S. A Study on the Pattern of Uveitis and Any Seasonal Variation in the Incidence of Uveitis at a Tertiary Care Hospital of Delhi, India.The Official Scientific Journal of Delhi Ophthalmological Society. 2019 Feb 7;29(3):30-4.