A STUfy ON UVEITIS, ITS AETIOLOGIES AND VISUAL OUTCOME IN TERTIARY HEALTHCARE CENTER IN NORTH CHENNAI
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ABSTRACT

BACKGROUND
The authors investigated relative occurrence of uveitis and its causes, visual outcome in uveitis patients with the aim of better defining the visual morbidity and identifying potential risk factors.

MATERIALS AND METHODS
A cross sectional observational study conducted at ophthalmology OPD of Government Stanley medical college with 50 uveitis patients. Patients were examined, treated and followed during a period of 1 year. All underwent ocular examination and a set of laboratory investigations to arrive at a specific diagnosis. Uveitis was classified according to Anatomical location, Pathology and Aetiology. The final diagnosis was based on typical ocular and systemic symptoms and signs and on the result of specific laboratory reports. Final visual outcome after treatment was analysed.

RESULTS
In 50 patients, around 58 eyes were diagnosed as uveitis, 42 had unilateral and 8 had bilateral ocular disease. Among 58 eyes, 38 eyes (65.72%) had non-granulomatous and 20 eyes had granulomatous uveitis. Anterior Uveitis (67%) was the most frequent anatomical diagnosis. The underlying cause for uveitis was evaluated as non-infectious in 28 eyes (48.2%) and infectious in 26 eyes (44.8%) and 4 eyes as idiopathic (6.9%). A potential aetiology and a definitive clinical diagnosis was established in 93.1% cases. Tuberculous aetiology was the most common systemic disease diagnosed in 27.5%. On regular follow up nearly 23 eyes (39.4%) had good visual prognosis. Patients who had bilateral uveitis, granulomatous pathology, panuveitis had poor prognosis.

CONCLUSION
Uveitis is an ocular condition which if diagnosed and treated early according to its etiology with regular follow up has good visual recovery.

KEYWORDS
Uveitis, Visual Outcome, Aetiology, Granulomatous, Tuberculosis.

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of follow up, laterality of inflammation and aetiology according to Anatomical and Pathological classification and visual outcome following treatment. The anatomical site of inflammation was used to classify the uveitis according to the recommendation of International uveitis study group (IUSG). Snellen visual acuity was recorded at each visit. Laboratory tests included Complete blood count (CBC), erythrocyte sedimentation rate (ESR), and C reactive protein (CRP) tests were performed in all cases. According to the clinical observations and the results of these routine preliminary examinations, a tailored more arduous battery of tests was designed for each case as deemed necessary.

Classification of Uveitis- Type of intraocular inflammation (uveitis) was classified according to the anatomical site of the major inflammatory manifestations and the most probable aetiological factors associated with this reaction as described earlier.12 Anatomical classification of “anterior uveitis” (anterior segment intraocular inflammation) was made only when the intraocular inflammatory signs were confined to the anterior chamber with less than 10 inflammatory cells observed in the anterior vitreous. In the presence of more than 10 inflammatory cells in the anterior or mid-vitreous and/or in the presence of “snowballs,” a diagnosis of “intermediate uveitis” (intermediate intraocular inflammation) was made. Diagnosis of “posterior uveitis” (posterior segment intraocular inflammation) was made in the presence of inflammatory cells within the posterior vitreous with retinal vasculitis and/or retinal or choroid infiltrates. In eyes harbouring anterior and posterior segment intraocular inflammatory signs, a diagnosis of “panuveitis” (panintraocular inflammation) was made.13 The intraocular inflammation was further subdivided according to whether it was associated with an infectious or non-infectious process and whether it was strictly confined to the eyes or it was associated with a systemic disease.12

Diagnostic Criteria- A detailed clinical history, complete laboratory workup and additional ophthalmologic or specialized medical consultations (performed when the origin of uveitis was uncertain), were always done before the institution of intravenous steroids or immunosuppressive drugs. Evaluation of patients with uveitis potentially associated with spondyloarthropathies was based on the European Spondyloarthropathy Study Group criteria. HLA-B27 typing was performed in all nongranulomatous cases of uveitis and was not limited to patients with typical HLA-B27-associated anterior uveitis. For granulomatous uveitis associated with sarcoidosis, results of serum angiotensin-converting enzyme and serum lysozyme tests, chest X-ray, and gallium scintigraphy were considered. Evidence of a noncaseating granuloma was required for the diagnosis of sarcoidosis, except when uveitis presented with typical bilateral hilar or mediastinal adenopathy. Ocular toxoplasmosis was diagnosed based on the presence of a typical fundus change of focal retinochoroiditis and positive IgG anti-Toxoplasma on serology. Syphilis was diagnosed when treponemal haemagglutination (TPHA) and nontreponemal (VDRL) tests were positive.

For tuberculous uveitis, 2 different diagnostic groups were determined. A positive culture for mycobacteria in any fluid or tissue sample was necessary for diagnosis of an active infection by the tubercle bacillus. However, a positive purified protein derivative (PPD) skin test associated with a personal or familial history of tuberculosis, abnormalities on chest X-ray, and granulomatous uveitis without positive culture for mycobacteria was associated with putative hypersensitivity to the bacillus.14 Herpetic keratouveitis or uveitis was diagnosed based on the presence of corneal scars compatible with a previous herpetic keratitis and/or sectorial iris atrophy and/or ocular hypertension and positive IgG serologic findings. Cases of uveitis that were not associated with a detectable infectious agent or the above systemic disorders were classified as idiopathic.

Inclusion Criteria- Patients who were diagnosed as uveitis.

Exclusion Criteria
1. Uveitis patients with complications
2. Patients with corneal Pathology
3. Drug induced uveitis
4. Patients with diabetic retinopathy and hypertensive retinopathy.
RESULTS

A total of 50 patients were examined. Out of 50 patients, 28 (56%) were male and 22 (44%) were female. Among them 2 were male children and 1 female child. Average mean age of patients was 48 years.

In these 100 eyes of 50 patients, 58 eyes were diagnosed as uveitis. Distribution of type of uveitis according to anatomical site and pathology are presented in chart 2 and 3. Of this subset of 50 patients, 42 patients (84%) had unilateral disease and 8 (16%) had bilateral ocular disease.

The uveitis was characterized as strictly anterior in 39 eyes (67%) and was most frequent anatomical diagnosis. Intermediate Uveitis was diagnosed in 3 eyes (5.2%). Posterior Uveitis in 3 eyes (5.2%). Panuveitis was found in 13 eyes (22%).

According to Pathological classification 20 eyes (34.5%) were diagnosed as granulomatous uveitis & 38 eyes (65.5%) as non-granulomatous uveitis.

In many cases, symptoms were mild despite of prominent signs and so about 41% were asymptomatic. According to symptomatology, tearing and photophobia were the presenting symptoms in 37%, while red eye was the cause for referral in 10%. A drop in vision was reported in 12% cases.

The intraocular inflammation was associated with an infection agent in 26 eyes (44.8%). While non-infectious aetiology was determined in 28 eyes (48.3%). 4 eyes (6.9%) with a non-infectious aetiology and signs strictly confined to the eyes were classified as 'Idiopathic' because no specific cause was found.
Tuberculosis was the most common infectious cause determined in 27.5%. Trauma was most common non-infectious cause found in 26.8%. Toxoplasmosis (6.8%), Cytomegalovirus (3.2%), Herpes simplex uveitis (6.3%) were other infectious causes that were associated with uveitis. Sarcoidosis (3.2%), Rheumatoid arthritis (7.9%), Psoriasis (1.6%) were other autoimmune disease that were delineated as a cause of uveitis in our study. HLA-B27 positive uveitis was found in 6.4% patients. 2 patients with HIV positivity presented to us with florid features of uveitis. All these patients were given specific treatment according to the cause.

On regular follow up nearly 39.6% of patients had good prognosis with full vision improvement. Those patients who had traumatic uveitis, patients who were given specific treatment for HSV, toxoplasma had fair prognosis (26%). 31% had poor prognosis who had underlying auto immune pathology. Patients with bilateral presentation, granulomatous pathology and panuveitis had Poor prognosis with same visual acuity as initial presentation. Two patients with HIV infection had very poor prognosis (3.4%) with deterioration of visual acuity further.

**DISCUSSION**

Anterior uveitis was the most common presentation in this study followed by intermediate, posterior and panuveitis. During the entire period of follow up, intraocular inflammation remained strictly restricted to one eye only in 42 patients, while 8 patients either presented with a bilateral involvement or developed it later. In the present study, we were able to reach a workable diagnosis in about 93.1% of patients. An idiopathic diagnosis was made in only 4 (6.9%) of these patients. This relatively low incidence of an "idiopathic" diagnosis was, most probably, due to the tailored and individualised diagnostic approach. Tuberculosis was most common infectious aetiology causing uveitis insisting the prevalence of tuberculosis in the community.

Patients who had bilateral ocular disease and panuveitis had poor prognosis inspite of maximal treatment and regular follow up. The proportion of infectious and non-infectious aetiology of uveitis is nearly same in this study which correlates closely with study in chronic severe uveitis by Bodaghi et al. Uveitis associated with tuberculosis is still an important cause of complication with poor visual outcome. For non-infectious uveitis, 44.8% of cases were associated with systemic disorder. These results emphasize the importance of a close collaboration between internists and ophthalmologists in managing patients with severe uveitis. Initial and final visual acuity were compared. It is important to highlight that there was a significant difference after treatment in all but the group of patients with HIV positivity. These results are similar to those reported by Deane and Rosenthal.

**CONCLUSION**

Thus, our study highlights management of patients with uveitis is efficiently performed in collaboration with internal medicine physician and depends on a complete diagnostic procedure and well-adapted treatment. So, uveitis if diagnosed and treated early with regular follow up and specific treatment, rate of blindness due to uveitis can be decreased.

**REFERENCES**


