



ORIGINAL RESEARCH PAPER

PREVALENCE OF COMPLICATED CATARACT IN UVEITIS AND IT'S MANAGEMENT IN PATIENTS ATTENDING TERTIARY CENTRE, NORTH BENGAL MEDICAL COLLEGE & HOSPITAL, DARJEELING, WEST, INDIA

Ophthalmology

KEY WORDS: Chronic Uveitis, Glaucoma, Retinitis Pigmentosa, Retinal Detachment, Optic Atrophy, Intra-ocular Traumas, Refractive Errors, Macular Degeneration, Complicated Cataract

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ABSTRACT

Any opacity in the lens or its capsule is called cataract. Cataract formation due to any ocular disease is called complicated cataract. Common causes of complicated cataract are Chronic Uveitis, Glaucoma, Retinitis Pigmentosa, Retinal detachment, Optic atrophy, Intra-Ocular traumas, Refractive errors, Macular degeneration. A complicated cataract refers to the opacification of the crystalline lens secondary to intraocular disease, mainly intraocular inflammation condition that include anterior intermediate or posterior uveitis. A timely diagnosis and appropriate management are the key to a good visual outcome. This activity illustrates the etiology, evaluation and management of complicated cataracts and highlights the role of inter-professional term in evaluating and treating a patient diagnosed with complicated cataracts.

INTRODUCTION

Any opacity in the lens or its capsule is called cataract. Cataract formation due to any ocular disease is called complicated cataract.

Common causes of complicated cataract are

- Chronic Uveitis
- Glaucoma
- Retinitis pigmentosa
- Retinal detachment
- Optic atrophy
- Intra-Ocular traumas
- Refractive errors
- Macular degeneration

A complicated cataract refers to the opacification of the crystalline lens secondary to intraocular disease, mainly intraocular inflammation condition that include anterior intermediate or posterior uveitis. A timely diagnosis and appropriate management are the key to a good visual outcome. This activity illustrates the etiology, evaluation and management of complicated cataracts and highlights the role of inter-professional term in evaluating and treating a patient diagnosed with complicated cataracts.

Objectives :

- Outline the etiology of complicated cataracts
- Describe the clinical examination of the patients presenting with complicated cataract in details,
- Summarize the management including medical, surgical and post operative of complicated cataracts.

Cataract formation in uveitis occurs due to uncontrolled inflammation and also because of the use of steroids. Managing the case of a complicated cataract is a challenging task for an ophthalmologist, as it also requires meticulous control of the inflammation and management of the inflammation and management of the primary intraocular disease.

Complicated cataracts develop as one of the most common

complications of chronic or recurrent uveitis. Complicated cataracts occur secondary to intraocular inflammation and steroid therapy, accounting for about 90% of the visual disability in patients with uveitis.

Complicated cataract surgery due to uveitis comprises almost 1.2% of all cataract surgeries.

Pathophysiology

The crystalline lens is an avascular structure. It derives nutrition mainly from intraocular fluids. In complicated cataracts, the metabolism of the lens is affected due to the diffusion of toxins released in the intraocular fluids either due to inflammation or degenerative conditions. The posterior capsule of the lens is thin and lacks epithelial support; hence the toxins diffuse posterior, leading to the development of opacification in the posterior pole at the earliest stage. A posterior subcapsular cataract is the commonest manifestation of complicated cataracts.

A thorough history and detailed ophthalmic as well as systematic examination must be carried out to reach to a diagnosis.

History:

- Dimness of vision
- Mode of onset
- Progression
- Nature
- Diurnal variation
- Associated symptoms such as pain, redness, watering of the eyes.
- Associated flashes, floaters, colored haloes, glare, diplopia.
- History of recurrence
- Treatment history of steroids, immunosuppressive drugs, any chemotherapy for intraocular tumors.
- Systemic illness such as diabetes mellitus, hypertension, any autoimmune disease, tuberculosis, sarcoidosis, leprosy.

Comprehensive Ophthalmic Examination

- Visual Acuity
- ✓ Uncorrected visual acuity
- ✓ Refraction
- ✓ Best corrected visual acuity
- ✓ Near vision
- Measurement of intraocular pressure (IOP) – by Goldmann application tonometry to rule out glaucoma and hypotony,
- Examination of the Lacrimal system to rule out any lacrimal system obstruction.
- Pupillary reaction – direct and consensual
- RAPD
- Slit lamp Bio-microscopy
- ✓ Cornea – Keratic precipitates, Oedema, Scars
- ✓ Anterior chamber – Depth, cells and flare in the anterior chamber, Hypopyon, Hypphaema
- ✓ Iris – Heterochromia, astrophic patches, iridodonesis. Vascularization synechia.
- ✓ The crystalline lens – Anterior and posterior capsular statches, grading of the cataract. Zonular itatus, phacodonesis.

The complicated cataract typically begins as a posterior subcapsular cortical cataract, opacity is irregular in outline, appearing as (BREAD CRUMB) in the slit lamp. A characteristic sign is the appearance of iridescent colored particles polychromatic lusture of reds, greens and blues.

Gradually it develops in to total cataract.

- o Pupil –may be small and irregular due to posterior synechia, difficult to dilate.
- o Vitreous – Anterior $1/3^{rd}$ of the vitreous can be examined by slit lamp for any opacities, cells in the vitreous cavity.
- o Slit lamp Bio-microscope with 90D lens – to examine status of macula, like macular edema, macular ischemia, and macular scar and most importantly cystoid macular. Edema choroidal neovascularization and study of optic disc to see any glaucomatous optic disc changes.

Dilated Fundus examination – Carried out using indirect ophthalmoscope to look for retinal pathologies, like retinal detachment, peripheral retina and the pack plane should be examined by sclera indentation for intermediate uveitis. Retina is examined for degenerative retinal conditions. The classical tried in Retinitis pigmentosa comprises bong spicules in the mid periphery, waxy pallor disc and anterior attenuation. Any choroidal tumors should be identified.

Laboratory Examination

1. Complete hemogram
2. Erythrocyte sedionentation
3. C – reactive protein
4. Blood sugar (fasting and post prandial)

Other Tests (Based on history and clinical examination)

1. Sputum test for acid-fast bacilli (to rule out tuberculosis)
2. NCCT scan chest for tuberculosis, sarcoidosis
3. Serum calcium, Serum ACE enzyme for sarcoidosis.
4. VPPL for syphilis
5. TORCH profile
6. RA factor for rheumatoid arthritis
7. Serum ANA, p-anca, c-anca for other autoimmune conditions.

Ocular Investigation

1. Gonioscopy -To look for anterior chamber angle status.
2. Slit Lamp Bio-microscopy – T see flare and cells in the anterior chamber
3. Ultrasound Bio-microscopy – Should be done in the eyes with hypotony to look for the status of the ciliary body and its processes, Zonular status, status of the posterior capsule and cyclitic membranes.
4. Optical Coherence Tomography of the macule – To assess

the thickness of the macule, presence of any neovascular membrane, epiretinal membrane.

5. Fundus Fluoresce in Angiography – To look for retinal ischemia, edema leakages.
6. Perimetry -If any opticnv pathology suspected.
7. Ultrasound Biometry – For calculation of axial length, anterior chamber depth, lens thickness, calculation of IOL to be implanted.

METHODS

Study Period – November 2018 to October 2021

Site of Data Collection– Eye OPD of North Bengal medical College Darjeeling

Schedule of Data Collection – From 10a.m to 2p.m on following days in week – Monday, Wednesday and Friday

Total of 57 patients were included in this study. After proper examination, diagnosis was established and all required investigations were carried out.

Exclusion Criteria

Complicated Cataract arising out of other ocular diseases like Retinitis pigmentosa, Choroidal tumor, refractive error like pathological Myopia, were excluded from this study.

When visual loss is mainly secondary to cataract formation, the maximum benefit is obtained with cataract surgery. The post operative outcome depends upon several factors, including diagnosis, proper pre operative treatment, proper perioperative and meticulous surgery.

MANAGEMENT

As the main reason of formation of complicated cataract is ueval tissue inflammation, preoperative inflammation must be reduced with the help of topical steroids and oral steroids. Strong cycloplegics like Atropine Sulphate (1%) or Homatropine are used to dilate the pupil to break the posterior synechia as well as to reduce ueval tissue inflammation.

A meticulous surgery, per operative synechiolysis, good capsulorrhexis can help to place intra-ocular lens in capsular bag. If the inflammation involves only anterior segment, patient might gain good visual acuity. In the case of prolonged chronic uveitis and involvement of posterior segment, patient might not get good visual acuity because of one of the commonest complications like Cystoid Macular Oedema. Other common complications like Vitritis, posterior vitreous detachment, late complications like Retinal detachment also contribute to poor visual proboscis.

Post operative complications like post operative uveitis were treated with topic steroids, if required systemic steroids (1mg/kg body weight). Post operative raised intra-ocular pressure was managed with topic anti glaucoma medications. To prevent cystoid macular oedema, preoperative and post operative topical application of anti-inflammatory medications like Nepaphenic Acid, Bromphenic Acid were used. However, preoperative and post operative systemic steroids for four weeks should be used to minimize the risk of recurrence.

RESULTS

Cataracts are one of the most common complications in patients with chronic uveitis. Its incidence varies from 57% in parsplanities and 78% in Fuchs heterochromic iridocyclitis. Prevalence of complicated cataracts in chronic uveitis is 32%, found in this study.

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