



ORIGINAL RESEARCH PAPER

Ophthalmologist

DEMOGRAPHIC PROFILES AND AETIOLOGY OF COMPLICATED CATARACTS: A HOSPITAL BASED STUDY.

KEY WORDS: Complicated cataract, Uveitis

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ABSTRACT

Background: Cataracts secondary to intraocular diseases are complicated cataracts. Intraocular inflammation is the major cause of complicated cataract.

Aim: To study demographic profiles and aetiology of complicated cataracts in patients presenting to the Out-Patient Department of B. P. Koirala Lions Centre for Ophthalmic Studies (BPKLCOS).

Material and Methods: All cases of complicated cataracts were included from 1st January 2015 to 30th June 2016 (18 months). Detailed history and systematic clinical examination along with necessary investigations were performed.

Results: Out of 69 patients a total 92 eyes had complicated cataracts. The mean age of presentation was 45.19 years (SD ± 18.1). Twenty four cases (34.8%) were male. The female to male ratio was 1.875:1. Uveitis was found to be the major aetiology of complicated cataracts (61, 66.3%).

Conclusion: Uveitis was the most common aetiology of complicated cataracts.

INTRODUCTION

Cataract occurs when the lens loses its transparency by either scattering or absorbing light such that visual acuity is compromised.¹ Cataracts can result from age-related, genetic, metabolic, nutritional or environmental insults or can be secondary to other ocular or systemic conditions, such as diabetes or retinal degenerative diseases.² Cataract is the leading cause of blindness in the world.³ Cataract is also the leading cause of blindness in Nepal, accounting for over 80% of all avoidable blindness of the country.⁴

The cataract that occurs secondary to intraocular diseases is referred to as complicated cataracts. Any condition in which ocular circulation is disturbed or in which inflammatory toxins are formed shall disturb the nutrition of crystalline lens resulting in development of complicated cataracts. Some important ocular diseases causing complicated cataracts include uveitis, glaucoma, high myopia, retinitis pigmentosa, retinal detachment, aniridia, persistent foetal vasculature, microphthalmos, Norrie disease, retinoblastoma, and retinal anoxia.

The intraocular inflammation is the major cause of complicated cataracts. Cataract is a frequent complication of uveitis, occurring in up to 57% of patients with pars planitis⁵, 78% of patients with Fuchs heterochromic iridocyclitis⁶ and 83% of those with juvenile idiopathic arthritis (JIA).^{7,8} The incidence in other forms of uveitis is also high and seems to be related to both the location and duration of inflammation, as well as to the use of corticosteroid therapy. These cataracts are typically of the posterior subcapsular (PSC) variety.

In persistent hyperplastic primary vitreous (PHPV), the PSCC is often associated with abnormal blood vessels from the hyaloid system that arborize from the posterior pole of the lens.

Cataracts seen in retinal anoxia and anterior segment necrosis are thought to occur due to interference with the nutrient supply of the lens. This leads to decreased anabolism, increased catabolism, increased acidity, and necrosis. The cataracts in these conditions are also of the PSC type.

An acute increase in intraocular pressure can cause focal necrosis of the subcapsular epithelium and localized, fleck-like opacities (glaucomflecken). Their presence indicates that the patient has had an acute increase in intraocular pressure.

Premature occurrence of nuclear and PSC type cataracts have been described in eyes with high myopia.^{9,10} In patients with aniridia and Peters' anomaly, both PSC and cortical cataracts may occur.

This study is, therefore, expected to provide clinical information regarding complicated cataracts in Nepal. This study is also expected to provide a baseline data for more elaborate studies in this subject in Nepal.

MATERIALS AND METHODS

This is a descriptive observational hospital based study conducted from 1st January 2015 to 30th June 2016 at B. P. Koirala Lions Centre for Ophthalmic Studies (BPKLCOS), Institute of Medicine (IOM), Tribhuvan University, Maharajgunj, Kathmandu. A total 92 eyes of 62 patients had complicated cataracts.

Inclusion Criteria

All diagnosed cases of complicated cataracts presenting to BPKLCOS were enrolled.

Exclusion Criteria

1. Traumatic cataract
2. Patients who didn't give consent to participate in the study.

Assessment:

- 1) Anterior segment examination of the cornea, anterior chamber, iris, pupil and lens was done with Haag Streit BQ 900 slit lamp biomicroscope.
- 2) Grading of cells and flare in aqueous and vitreous humour was done according to Hogan's classification.
- 3) Lens was studied in detail under full mydriasis Classification of lenticular opacity / cataract was done using Lens Opacification Classification System II (LOCS II)⁷⁶
- 4) Detailed fundus examination under full mydriasis using eye drop Tropicamide 1% was performed with Heine Beta 200 direct ophthalmoscope, binocular indirect ophthalmoscope with +20D lens and Haag Streit BQ 900 slit lamp biomicroscope with +90D lens.
- 5) Ultrasound was done if indicated.
- 6) Intraocular pressure was taken with the help of Airpuff tonometer and/or Goldmann applanation tonometer.
- 7) The aetiology of the complicated cataract was noted.

Data Analysis:

Data was analysed using SPSS 20 software.

RESULTS

In this study, a total of 92 eyes of 69 patients with complicated cataracts were included.

The mean age of presentation was 45.19 (SD ± 18.1) years. (1-73). Most of the cases were in the age group of 41-50 years (20, 29%).

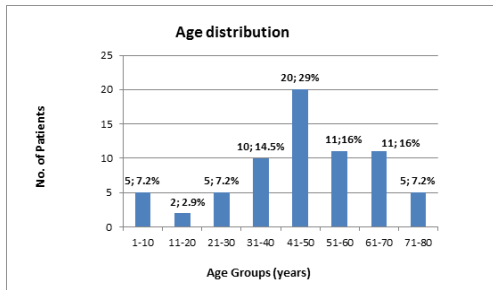


Figure 1: Age distribution

Out of the 69 cases, 24 cases (34.8%) were male and 45 cases (65.2%) were female. The female to male ratio was 1.875:1.

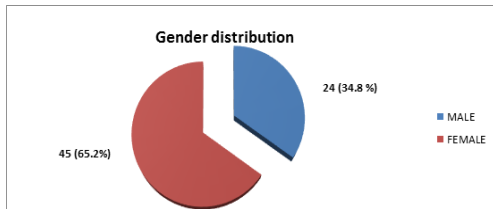


Figure 2: Gender distribution

There were (46, 66.7%) cases had unilateral cataract and (23, 33.3%) cases had bilateral cataracts.

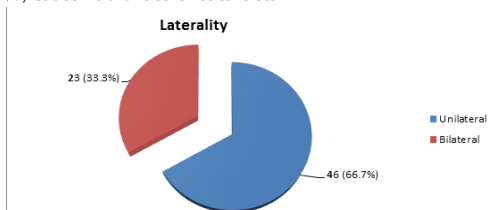


Figure 3: Laterality of eyes

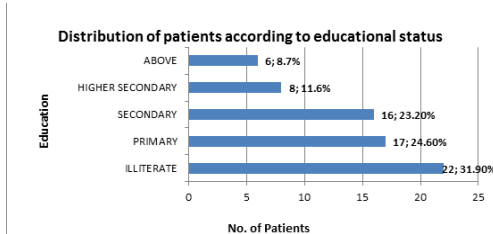


Figure 4: Educational status of the patients

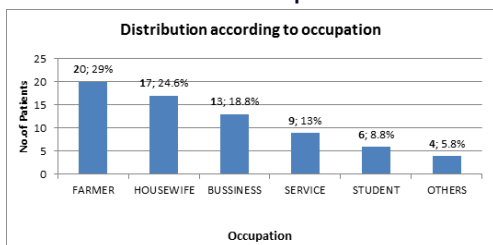


Figure 5: Distribution of cases according to occupation

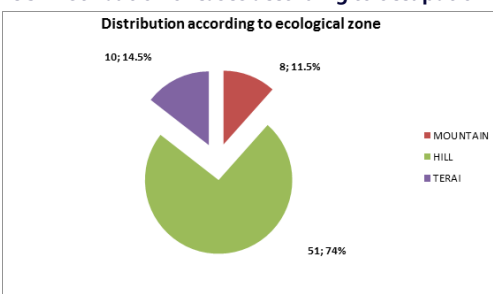


Figure 6: Distribution of cases according to ecological zone

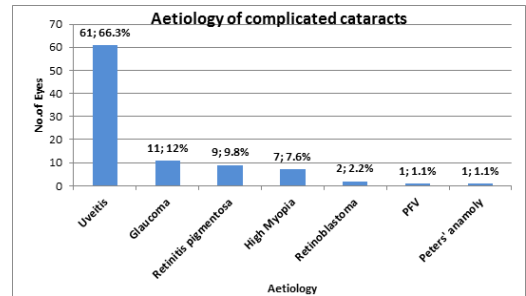


Figure 7: Aetiology of complicated cataracts

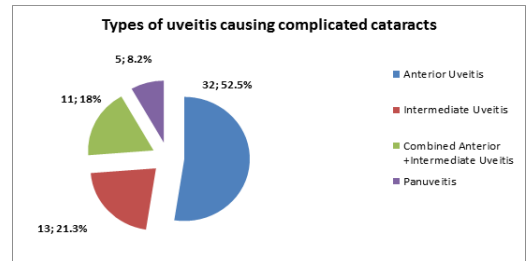


Figure 8: Types of uveitis in uveitic cataracts

DISCUSSION

This study was conducted at B. P. Koirala Lions Centre for Ophthalmic Studies (BPKLCOS) and Tribhuvan University Teaching Hospital (TUTH). A total of 92 eyes of 69 patients diagnosed with complicated cataracts were enrolled from 1st January 2015 to 30th June 2016.

The mean age of presentation was 45.19 (SD ± 18.1) years and most cases were in the age group of 41-50 years.¹¹ The mean age of patients with high myopia presenting for surgery in the study done by S. Jeon et al was 59.60 ± 12.28 years.¹² However in the study by H. Jackson et al, the mean age of presentation of complicated cataracts in retinitis pigmentosa was 47.5 years¹³ which is similar to our study.

Out of 69 patients, 24 cases (34.8%) were male while 45 cases (65.2%) were female with female to male ratio (F:M ratio) of 1.875:1 which is similar to the study by K V Raju et al¹¹ where females outnumbered males by 2%.

Forty six (66.7%) cases had unilateral involvement and (23, 33.3%) cases had bilateral.

In this study, most of the patients were illiterate comprising of 31.9% the total cases. The percentage of patients with primary, secondary and higher secondary education was 24.6%, 23.2% and 11.6% respectively. Only 5.7% cases had accessible to education above higher secondary education.

The majority of the patients in this study were farmers (29%) by occupation, followed by housewives (24.6%).

In this study, 74% of the study population belonged to the Hill region; followed by 14.5% to the Terai region and only 11.5% came from the Mountain region.

Most common aetiology for complicated cataracts in this study was uveitis (66.3%), which is one of the commonest intraocular inflammations. This is similar to another study in which cataract formation was the most common anterior segment complication after recurrent inflammation, occurring in up to 36% of cases.¹⁴ Anterior uveitis was the most common type of uveitis (52.5%) causing complicated cataract in this study which is similar to the study done by K V Raju et al¹¹ where anterior uveitis was the most common cause of complicated cataract (62%). Intermediate uveitis was the second most common cause of complicated cataract (21.3%) in this study similar to the study done by K V Raju et al¹¹ in which intermediate uveitis comprised of 20% of the cases.

This was followed by combined anterior and intermediate uveitis (18%) and panuveitis (8.2%). In contrast to the study by K.V Raju et al, no eyes with posterior uveitis was present in this study causing complicated cataracts whereas in the former study, posterior uveitis accounted for 8% of the total cases. Among anterior uveitis, acute form of the disease was most common associated factor for the formation of complicated cataracts (23%). However in the study done by K V Raju et al¹¹ chronic form of anterior uveitis was the major cause of complicated cataract (64%) followed by recurrent form of anterior uveitis (24.6%) and acute form of anterior uveitis (10%). In contrast to that study, chronic form of anterior uveitis and recurrent form of anterior uveitis were responsible in formation of complicated cataracts in 16.4% and 13.1% of uveitic cases in this study.

In this study, glaucoma was the second most common aetiology of complicated cataracts (12%). This was followed by retinitis pigmentosa (9.8%) and high myopia (7.6%) respectively. In a study done by Fishman GA et al¹⁵, out of 338 patients with retinitis pigmentosa, 180 (53%) had PSCC. In another study by Praveen et al, high myopia was the major risk factor for development of early cataract.¹⁵ Others causes of complicated cataracts found in this study were retinoblastoma (2.2%), PFV (1.1%) and Peters anomaly (1.1%).

CONCLUSION

Cataracts can occur secondary to a large number of intraocular diseases, and these are often referred to as complicated cataracts. This study is undertaken to find out the clinical and aetiological profile of complicated cataracts among the Nepalese population. To our best knowledge, no reports are available in Nepalese literature with regard to the aetiological pattern of complicated cataracts till date.

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