



TO EVALUATE THE CLINICAL PATTERNS OF COMPLICATED CATARACTS: A HOSPITAL BASED STUDY

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ABSTRACT **Background:** Complicated cataracts or secondary cataracts are those cataracts that occurs secondary to other intraocular diseases. There are many causes of complicated cataracts but the most common cause is intraocular inflammation.

Aim: To evaluate the clinical patterns 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 patients fulfilling the diagnostic criteria for complicated cataracts were enrolled from 1st January 2015 to 30th June 2016 (18 months). Detailed history and systematic examination along with necessary investigations were done.

Results: Ninety two eyes of 69 patients 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. Forty six (66.7%) cases had unilateral involvement. The most common clinical pattern of complicated cataract was posterior subcapsular cataract (63, 68.5%).

Conclusion: Posterior subcapsular cataract was the most common clinical pattern of complicated cataracts.

KEYWORDS : Complicated cataract, Posterior subcapsular cataract

INTRODUCTION:

Cataract (primary or secondary) is one of the leading causes of blindness in the world.¹ Cataract is also the leading cause of blindness in Nepal, accounting for over 80% of all avoidable blindness of the country.² Cataract is an abnormal progressive condition of lens: occurs when the lens loses its transparency such that visual acuity is compromised.³

Cataract secondary to intraocular diseases is referred to as complicated cataracts. The intraocular inflammation could be the major cause of 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.

This study is undertaken to find out the clinical pattern of complicated cataracts in Nepalese population. To our best knowledge, no reports are available in Nepalese literature with regard to the clinical pattern of complicated cataracts till date. 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 having complicated cataracts were included.

Inclusion Criteria

All patients diagnosed as a case of complicated cataracts presenting 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)⁴
- 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 clinical patterns of the complicated cataract were noted.

Data Analysis: Data was analysed using SPSS 20 software.

RESULTS

A total of 92 eyes of 69 patients with complicated cataracts were included in this study. 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%).

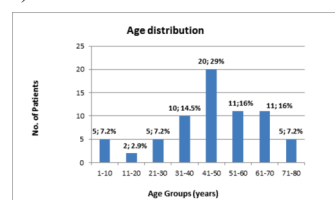


Figure 1: Age distribution

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.

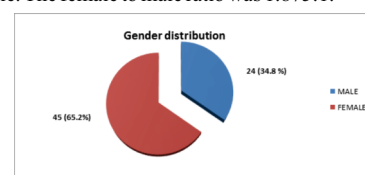


Figure 2: Gender distribution

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

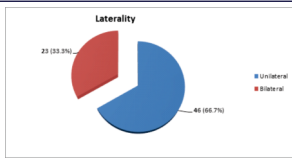


Figure 3: Laterality of eyes

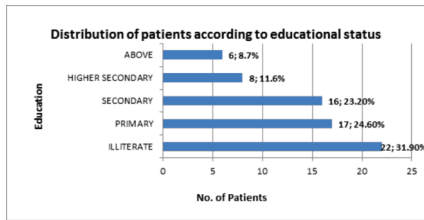


Figure 4: Educational status of the patients

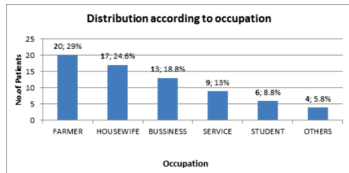


Figure 5: Distribution of cases according to occupation

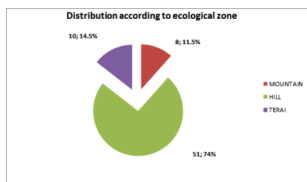


Figure 6: Distribution of cases according to ecological zone

Most of the eyes with complicated cataracts had posterior subcapsular cataracts (PSCC) accounting for 68.5% of the total eyes. The anterior subcapsular cataracts (ASCC) and nuclear cataracts were present in 8.7% and 7.6% respectively.

Table 8. Clinical patterns of complicated cataracts

Cataract type	Number of Eyes	Percent (%)
Anterior Subcapsular Cataract	8	8.7
Cortical Cataract	2	2.2
Nuclear Cataract	7	7.6
Posterior Subcapsular Cataract	63	68.5
Mixed	8	8.7
Total	92	100

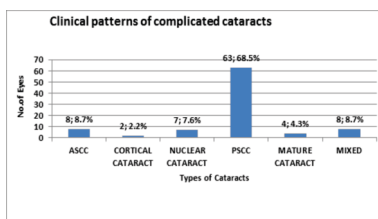


Figure 11. Bar diagram showing clinical patterns of complicated cataracts.

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. The peak incidence of complicated cataract was in the age group of 31-40 years.⁵ 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.⁶ However in the study by H. Jackson et al, the mean age of presentation of complicated cataracts

in retinitis pigmentosa was 47.5 years⁷ 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 al⁵ 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. Ecologically, Nepal is divided into three regions - Mountain, Hill and Terai. According to the 2011 census of Nepal⁷⁸, the Mountain region accommodates only 6.73% population of the country whereas share of the Hill region and the Terai region are 50.27% and 43% respectively. Likewise, 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. In addition, predominance of the Hill region was probably due to easy accessibility of the places of the study (BPKLCOS and TUTH) for eye care services as both are situated in Hill region themselves. Similarly probable reasons for less percentage of the Terai region are relatively more availability of eye hospitals in Terai as well as relative easiness of Terai people to attend local eye care services.

In this study, the most common morphological type of complicated cataracts was found to be PSCC (68.5%). The most common type of complicated cataract was posterior subcapsular cataract which was similar to the study done by. Javadi M-A et al.⁸ PSCC was also predominant cataract in our study, which is consistent with the finding in the study done by Auffarth GU et al.⁹ Anterior subcapsular cataract was the most common type of cataract seen in the cases with acute congestive glaucoma in our study. All cases of high myopia included in this study had nuclear cataract, which is similar to the study done by Praveen et al.¹⁰ where there was higher prevalence of nuclear sclerosis in cases with high myopia. This is also consistent with another study done by Sohee Jeon et al⁶ where nuclear sclerosis (40.63%) and PSCC (26.22%) was found in high myopic eyes. Mature cataracts were seen in cases of Retinoblastoma, PFV and Peters anomaly in this study.

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 patterns of complicated cataracts among the Nepalese population. To our best knowledge, no reports are available in Nepalese literature with regard to the clinical pattern of complicated cataracts till date.

Majority of the cases with complicated cataracts were in the fifth decade and females were more affected than males. The most common presenting symptom was diminution of vision in eyes with complicated cataracts. Unilateral cases were more common than bilateral cases. Posterior subcapsular cataract was the most common type of complicated cataracts in this study.

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