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Original Research Article

Higher Rate of Mature Senile Cataract in Tribal Population of Dadra and Nagar Haveli: Major Cause of Blindness in Tribal Population

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Abstract

Aim: The purpose of the study to report the higher rate of mature senile cataract in tribal population of Dadra and Nagar Haveli due to lack of awareness and negligence.

Materials and Methods: Case records of mature senile cataract seen from July 2016 to November 2018 were reviewed retrospectively. Data regarding the patients' age, sex, demographic data, type of cataract, and treatment were analyzed.

Results: A total of 250 records were reviewed. Type of cataract was matured among all the patients Mean age of presentation was 65. Lack of awareness and negligence was seen in almost all patients.

Conclusion: Our study revealed that in this era of medical science there were higher cases of matured cataract seen in tribal community, the most common cause of it is negligence. Visual outcomes remained good after surgical intervention and during the course of follow-up. The findings of present study highlight the need for primary prevention, education of community, and control measures.

Keywords: Tribal Population, Mature Senile Cataract, Camp, Age

Introduction

Senile cataract is an age-related, vision-impairing disease characterized by gradual progressive clouding and thickening of the lens of the eye. It is the world's leading cause of treatable blindness. A patient with senile cataract often presents with a history of gradual progressive visual deterioration and disturbance in night and near vision [1,2]. Characteristic symptoms of senile cataract include the following:

- Decreased visual acuity - The most common complaint of patients with senile cataract

- Glare - Can range from a decrease in contrast sensitivity in brightly lit environments or disabling glare during the day to glare with oncoming headlights at night
- Myopic shift - The progression of cataracts frequently increases the anteroposterior (AP) axis and therefore the dioptric power of the lens, resulting in a mild to moderate degree of increased myopia or myopic shift
- Monocular diplopia - - At times, the nuclear changes are concentrated in the inner layers of the lens, resulting in a refractile area in the center of the lens, the so called "lens within a lens" phenomenon, which may lead to monocular diplopia that is not correctable with spectacles, prisms, or contact lenses [3,4].

A complete ocular examination must be performed, beginning with visual acuity for near and far distances. When the patient complains of glare, visual acuity should be tested in a brightly lit room. Contrast sensitivity may also be checked, especially if the history points to a possible problem. Diagnosis can also include the following:

- Examination of the ocular adnexa and intraocular structures - May provide clues to the patient's cataract etiology, concomitant disease, and eventual visual prognosis
- Swinging flashlight test - Detects a Marcus Gunn pupil or a relative afferent pupillary defect (RAPD) indicative of optic nerve lesions or severe diffuse retinal involvement
- Slit lamp examination - Should concentrate on the evaluation of not only lens opacity but also other ocular structures (e.g., conjunctiva, cornea, iris, anterior chamber)
- Examination of nuclear size and brunescence - After dilation, nuclear size and brunescence as indicators of cataract density can be determined prior to phacoemulsification surgery [5,6].
- Direct and indirect ophthalmoscopy - To evaluate the integrity of the posterior pole

Ocular imaging studies such as ultrasonography, computed tomography (CT) scanning, or magnetic resonance imaging (MRI) are requested when a significant posterior pole pathology is suspected and an adequate view of the back of the eye is obscured by a dense cataract.

Clinical staging of senile cataract is traditionally based on the appearance of the lens on slit-lamp examination, as follows:

- Hyper mature cataract: This is a dense white opacity that obscures the red reflex and contains milky fluid within the capsule, a result of degenerated lens cortex. The capsule if often tense or wrinkled. A morgagnian cataract is a type of hyper mature cataract in which the nucleus sinks within the fluid cortex.
- Mature cataract: This is a cataract that is opaque, totally obscuring the red reflex. It is either white or brunescent [7,8].
- Immature cataract: This is a cataract characterized by a variable amount of opacification, present in certain areas of the lens. These may include both high- and low-density areas, with some clear lens fibers.
- Incipient cataract: This is a cataract that is seen on slit-lamp examination but is of little clinical significance.

Clinical staging of senile cataract can also be based on the visual acuity of the patient, as follows:

- Hypermature cataract: The patient generally sees worse than count fingers (CF) or hand motion (HM).
- Mature cataract: The patient cannot read better than 20/200 on the visual acuity chart.
- Immature cataract: The patient can distinguish letters at lines better than 20/200.

- Incipient cataract or dysfunctional lens syndrome: The patient reports visual complaints but can still read at 20/20 despite lens opacity confirmed via slit lamp-examination [9,10].

Lens extraction is the definitive treatment for senile cataract. It can be accomplished via the following procedures:

- Intracapsular cataract extraction (ICCE) - Involves extraction of the entire lens, including the posterior capsule and zonules; the many potential intraoperative and postoperative complications associated with this procedure has led to a significant decline in its use
- Extracapsular cataract extraction (ECCE) - Involves the removal of the lens nucleus through an opening in the anterior capsule and a relatively large limbal incision, with retention of the integrity of the posterior capsule [11,12].
- Phacoemulsification - Also involves extraction of the lens nucleus through an opening in the anterior capsule; an ultrasonically driven needle is used to fragment the nucleus of the cataract; the lens substrate is then aspirated through a needle port via a small limbal or scleral incision in a process termed phacoemulsification

Intraocular lens (IOL) implantation is customarily used in combination with each of these techniques, although ECCE and phacoemulsification allow for more advantageous anatomical placement of the IOL than does ICCE.

Aim

To report the higher incidence of senile mature cataract in a tribal population of Dadra and Nagar Haveli

Materials and Methods

A retrospective analysis of the clinical records of 250 patients from tribal population of Dadra and Nagar Haveli from July 2016 to November 2018 to diagnosed with senile mature at our Ophthalmology OPD. Demographic data, clinical history, age, sex, type of cataract and treatment of all the patients were reviewed. They have not come to OPD early due to their negligence, fear of hospital and fear of surgery. All came with visual acuity between fc 1meters and fc 3meters.

Diagnosis of senile mature cataract was based on ocular history. and complete ophthalmic examination findings were noted in all cases, including best-corrected Snellen visual acuity, slit-lamp examination, applanation tonometry, and dilated fundus examination with direct ophthalmoscope and 90D lens and indirect ophthalmoscopy wherever possible. Systemic routine investigation required for surgery was done. All patients undergone for cataract surgery by small incision cataract surgery with good visual outcome in 85% of cases. 15% of cases had complications like posterior capsular rent and incision related complications [13]. After this study with the help of our Director sir Dr.V.K Das we organized multiple eye camps in each and every villages of Dadra and Nagar Haveli on every Saturday of week. We visited each and every village and checked almost all villager whose age is more than 50. We had done 2 camps in a row in our sub district hospital at Khanvel. We got many patients with senile mature and immature cataract from the camps. But we were not ready for surgery because of their fear of hospital and surgery. We have convinced them by sending ANM at their homes. We have spent two days per week only for camp patient for their surgical intervention. Most of the cases have undergone small incision cataract surgery and patients with immature cataract was undergone phacoemulsification. 90% cases with good visual outcome. Only 10% cases have got intrasurgical complications [14].

Results

The records of 250 patients of senile mature cataract were analysed. There were 150 (51.98%) males and 100 (48.01%) females. The mean age at presentation was 65 years in males 60-75 years in females (Range of 60-80 years). Most of cases have unilateral presentation but 18% patient have bilateral presentation. Type of cataract is senile mature cataract.

Table 1: Demographic details of the study population:

Gender: Male	150
Female	100
Age: 50-60	50
60-70	130
70-80	47
>80years	23
Laterality: Unilateral	205
Bilateral	45
Education: Uneducated	223
Educated	27 (minimal educated like 7th grade)
Socio economic status: low	250
high	0

All patients undergone for cataract surgery by small incision cataract surgery with good visual outcome in 85% of cases. 15% of cases had complications like posterior capsular rent and incision related complications.

Table 2: Clinical Details of 6 patients from our study

Age/ sex	Occupation	History	Vision	Post op vision after 1week
M/65 years	Farmer	Diminision of VA	Fc- 1mtrs	6/9
M/68yrs	Farmer	Diminision of VA	Fc-1mtrs	6/18
F/70yrs	Farmer	Blurring of vision	Perception light	6/18
F/65yrs	housewife	Diminision of VA	PL, PR	6/9
M/72 yrs	Farmer	Loss of vision	Fc- close to face	6/24
M/75 yrs	Vendor	Loss of vision	PL, PR	6/9

Discussion

Senile cataract is an age-related, vision-impairing disease characterized by gradual progressive clouding and thickening of the lens of the eye. It is the world's leading cause of treatable blindness. In tribal communities still the people are not properly educated and aware so we should make efforts to make them aware and to receive good treatment. Fear of surgeries are still there in this era of medical science. Patients we found with senile mature cataract in camps were not ready to come to hospital and not ready to get operated. We have done counseling for them. and convinced them for treatment. 85% of the patients had good visual outcome after surgery. 20% had complications. Most of the patients are farmer, with low socioeconomical status and uneducated. So, we should conduct camps for awareness and check up for every village of district. After this study with the help of our director sir Dr. V.K Das we organized multiple eye camps in each and every village of Dadra and Nagar Haveli on every Saturday of week. We visited each and every village

and checked almost all villager whose age is more than 50. We had done 2 camps in a row in our sub district hospital at Khanvel. We got many patients with senile mature and immature cataract from the camps. but we are not ready for surgery because of their fear of hospital and surgery. We have convinced them by sending ANM at their homes. We have spent two days per week only for camp patient for their surgical intervention. Most of the cases have undergone small incision cataract surgery and patients with immature cataract was undergone phacoemulsification. 90% cases with good visual outcome. Only 10% cases have got intrasurgical complications.

Conclusion

Our study highlights the perils of senile mature cataract caused in tribal population. Visual outcomes remained good during the course of follow-up. The findings of present study highlight the need for primary prevention, education of community, and control measures. Our study revealed that in this era of medical science there were higher cases of matured cataract seen In our region, the most common cause of it is negligence. after this study we have done multiple camps in our region and tried to solve the problem.

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