

## Complications of ECCE And SICS With IOL Implantation In Reach-In Camps In A Tertiary Healthcare Centre-An Observational Study

Dr Sarita Panda<sup>1</sup>, Dr Sneha R.H<sup>2</sup>, Drb.N.R Subudhi, Dr R.K. Bhoi

<sup>1</sup>(Dept. of ophthalmology, M.K.C.G Medical College/ Berhampur, India)

<sup>2</sup>(Dept. of ophthalmology, M.K.C.G Medical College/ Berhampur, India)

Corresponding Author: Dr Sarita Panda

**Abstract:** Aim was to observe the post operative complications following IOL surgery in “reach in” camps. In this prospective study carried out over a period of 1 year taking 486 patients with uncomplicated cataract attending “reach in” camps out of 2154 patients were assessed for the occurrence of complications post operatively. Early and late post-operative complications were recorded until 4-6 week follow up period. In early complications, uveitis reported the highest (6.16% ECCE, 2.70% SICS) and the least common was endophthalmitis (0.68% ECCE). After cataract (4.12% ECCE, 4.05% SICS) was found to be the most predominant late complication with the least incidence in case of secondary glaucoma (0.68% ECCE, 0.90% SICS). The post-operative BCVA was excellent (6/6 to 6/18) for 81% in ECCE and 86% in SICS group. Overall complications were 27% in ECCE group and 20% in SICS group.

Date of Submission: 10-09-2018

Date of acceptance: 27-09-2018

### I. Introduction

Cataract is the leading cause of blindness worldwide<sup>1</sup>. It's not a disease, rather a physiological process seen in elderly people due to various metabolic and biochemical changes in crystalline lens, but following trauma, congenital defect or due to some acquired metabolic disorder it can appear at any age. Worldwide, there are about 36 million people who are deprived of vision, out of which 47% are blind due to cataract alone and 50% of them reside in developing countries. In South East Asia region, at present estimated unoperated cataract backlog is about 10-12 million. In India, already 15 million people are blind due to cataract and 3.8 million are getting blind due to cataract every year, which adds to the pre-existing burden<sup>2</sup>. 'To see' is the basic right of every individual and thus the Govt. of India saw to it that no person remains blind of curable cause and hence began the National Programme for Control of Blindness (NPCB) in the year 1976<sup>3</sup>. At present, there are approximately 11,000 to 13,500 ophthalmologists to serve the nation and the ratio of an ophthalmologist with general population is 1:20,000 in urban area and 1:25,000 in rural area<sup>4</sup>. Thus mass surgery became the need of the hour and was to be carried out with extensive result. In the era, 1970-80 “reach out” camps were popular with the motive of doing cataract surgery at the camp site itself. Now a days, “reach in” camps<sup>5</sup> are being practised where screening is done at the camp site, but surgery is done at the referral hospital or the nearest district hospital with adequate infrastructure, equipment's and proper aseptic conditions. No surgery could be devoid of complications, but the newer techniques and surgical asepsis have indeed considerably reduced the complications. The aim of the present study is to evaluate the effectiveness of such surgeries in the retrospective arena of possible complications in camp cases..

### II. Material And Methods

This prospective comparative study was carried out on patients of Department of Ophthalmology at M.K.C.G Medical College Berhampur, Orissa, India from July 2017 to July 2018. 486 camp cases of senile uncomplicated cataracts of different ages and sexes were chosen out of 2154 patients attending the reach in camps in and around South Orissa.

**Study Design:** Prospective open label observational study

**Study Location:** This was a tertiary care teaching hospital based study done Department of Ophthalmology at M.K.C.G Medical College Berhampur, Orissa, India

**Study Duration:** July 2017 to July 2018.

**Sample size:** 486 patients.

**Sample size calculation:** The sample size was estimated on the basis of a single proportion design. The target population from which we randomly selected our sample was considered to be 35000 .

**Subjects & selection method:** The study population was drawn from consecutive cataract patients who presented to reach in camps with visual acuity less than 6/18 and with no systemic complications between from July 2017 to July 2018.

**Inclusion criteria:**

1. Patients with uncomplicated immature,mature,hypermature cataracts
2. Either sex
3. Aged 50-70 years
4. Patients having visual acuity less than 6/18.
5. No systemic complications.

**Exclusion criteria:**

1. Patients with congenital cataract.
2. Patients with genetic disorders
3. Patients on other concurrent trauma.
4. Patients with acquired metabolic disorder.
5. Patients taking concurrent corticosteroids, ciclosporin, and/or hormone replacement therapy.
6. Patients with a history of drug or alcohol abuse

**Procedure methodology**

These patients were screened at the camp site and brought to our department for surgery, where they again underwent an extensive local and systemic evaluation. The preoperative workup included the visual acuity measurement,IOP assessment,fundoscopy under mydriasis,pupillary reaction, blood pressure, urine test for proteins and sugars, slit lamp examination and xylocaine sensitivity. In all cases, accurate IOL power calculation was done through Bausch and Lomb keratometer and A scan biometry.

The patients underwent cataract surgery the next day under peribulbar anaesthesia either by ECCE with PCIOL or SICS with PCIOL surgical technique.They were nursed and subsequently evaluated the next day for any discharge,chemosis,leaky wound margin.Cornea was examined for haziness,formation of anterior chamber,ocular media and any pupillary abnormalities.Patients were given and advised instillation of topical antibiotics (0.3% Ofloxacin eye drops)and steroids(1% dexamethasone eye drops).from the second post operative day onwards during daily dressing strict vigilance was maintained for any complications like delayed AC formation,hyphaema,iris prolapse,IOL decentration or any signs of uveitis.

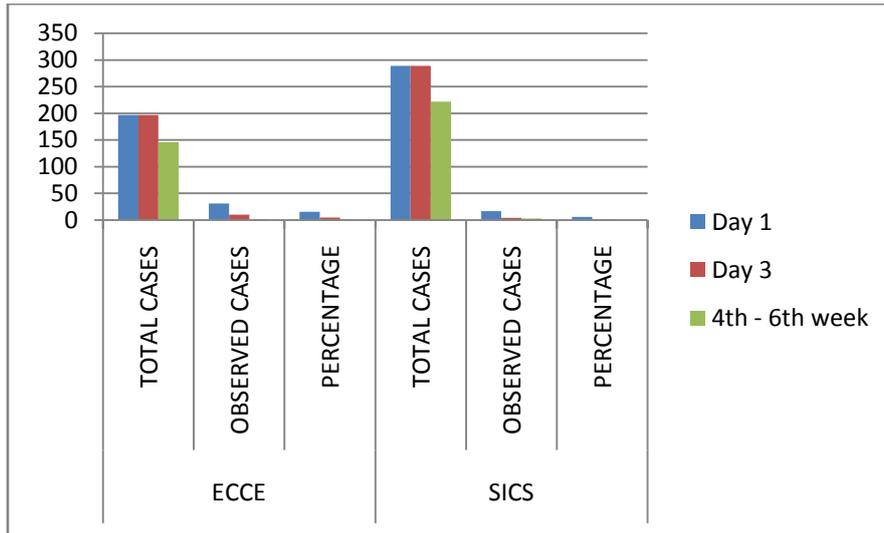
Patients were discharged on the third post operative day with topical medications,dark glasses and discharge slip as well as asked to visit after 4-6 weeks for follow up.Instructions were given to maintain personal hygiene.During 4 -6 week follow up additional examinations like retinoscopy,post mydriatic test and refraction correction were done.

**Statistical analysis**

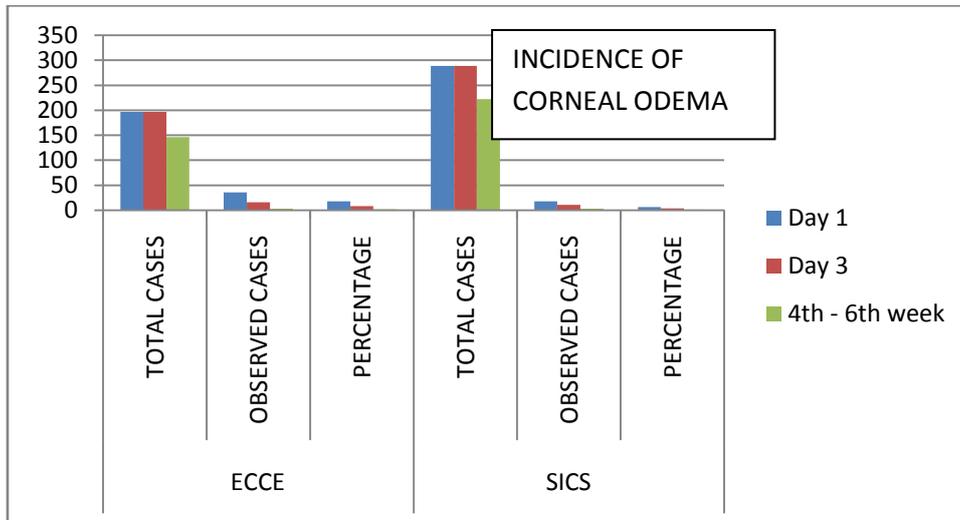
The data was recorded on a predesigned pro forma and was then transferred to an excel spread sheet

**III. Result**

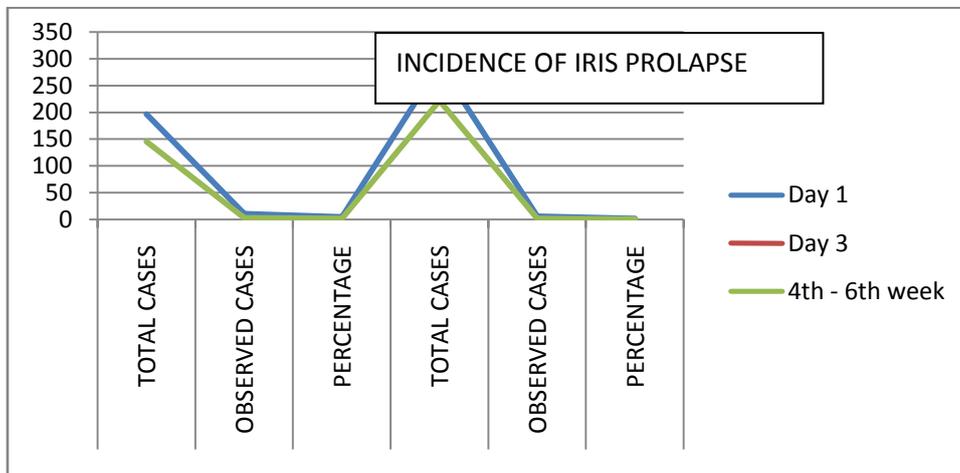
Our study evaluated 486 patients from 2154 reach in camps. The patients included 264(54%) males and 222 (46%) females. The highest number of patients who underwent cataract operation were in the age group of 60-69 years (39.10%) Out of the patients ,86% had a best corrected visual acuity below 6/60,14% of cases having BCVA between 6/24 to 6/60.



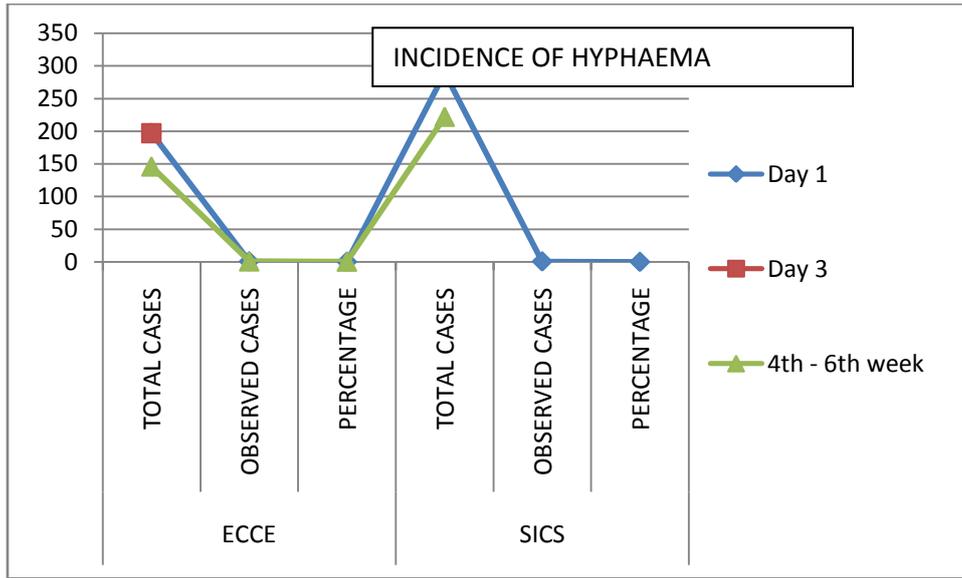
Bar chart.1



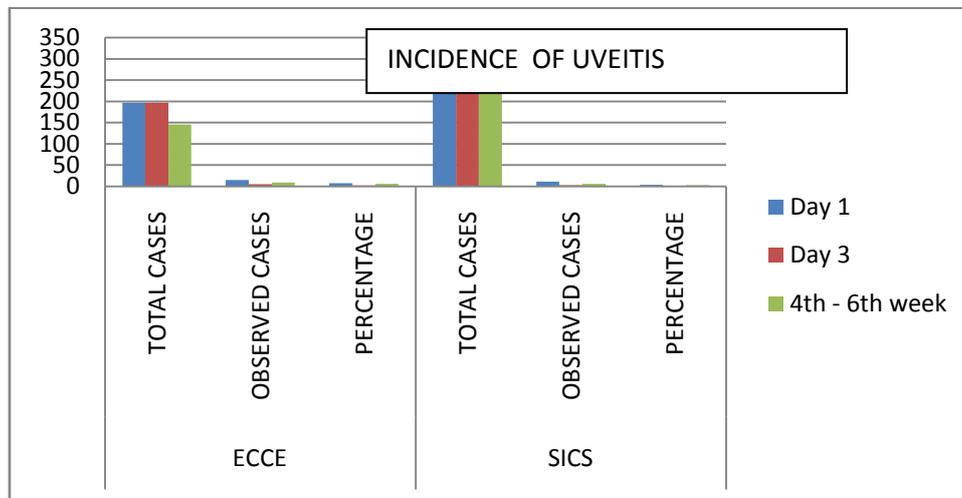
Bar chart.2



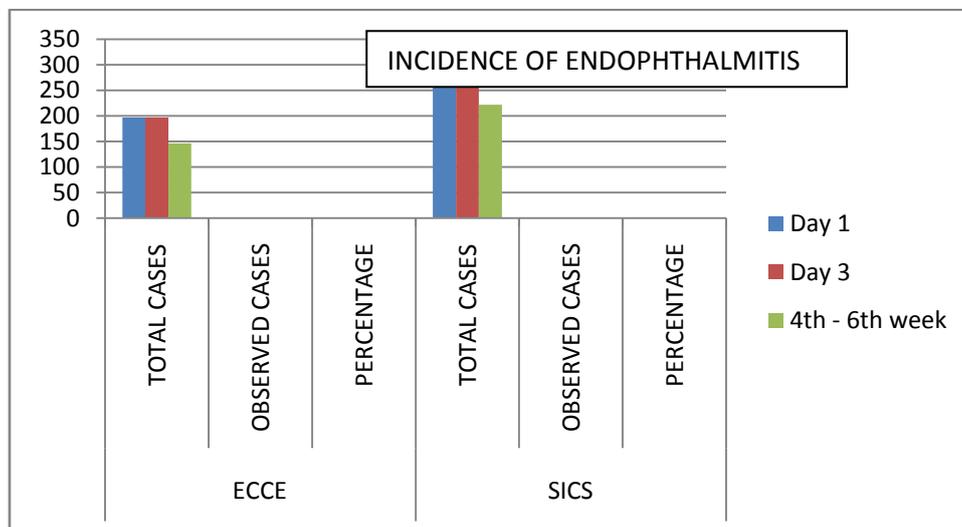
Line diag.1



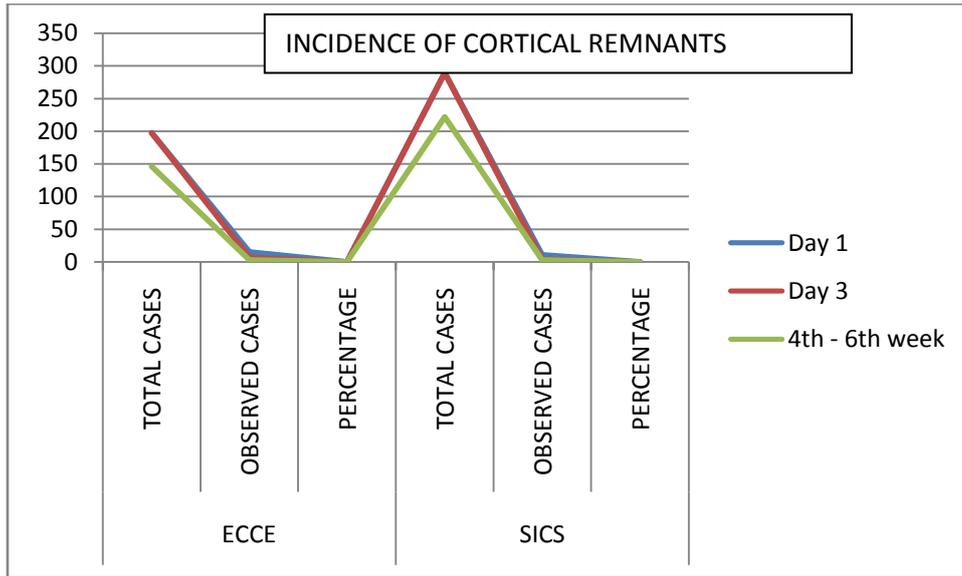
Line diag.2



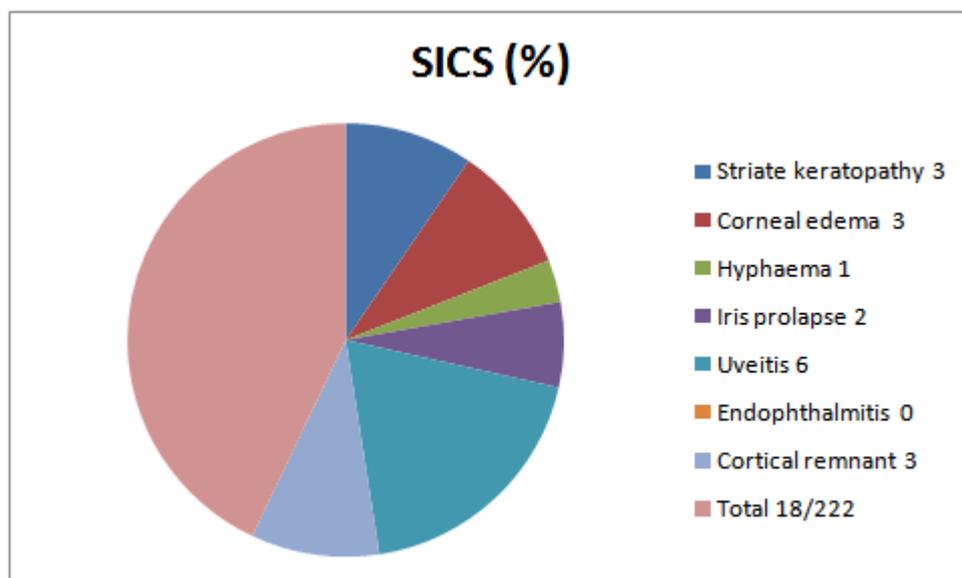
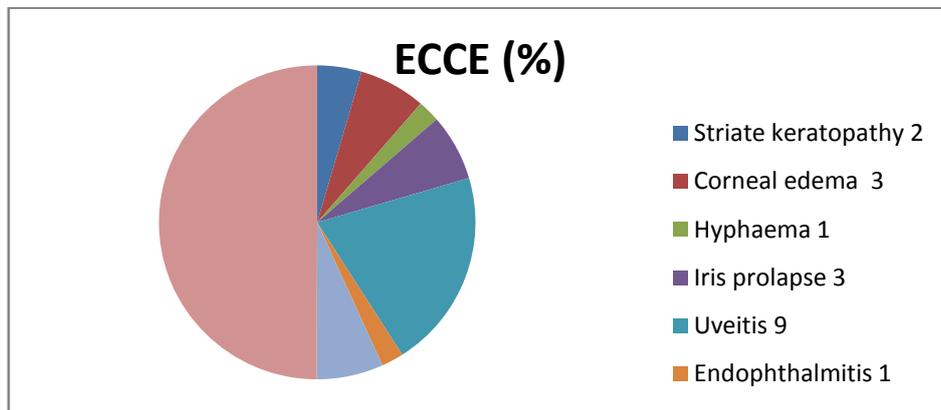
Bar chart 3

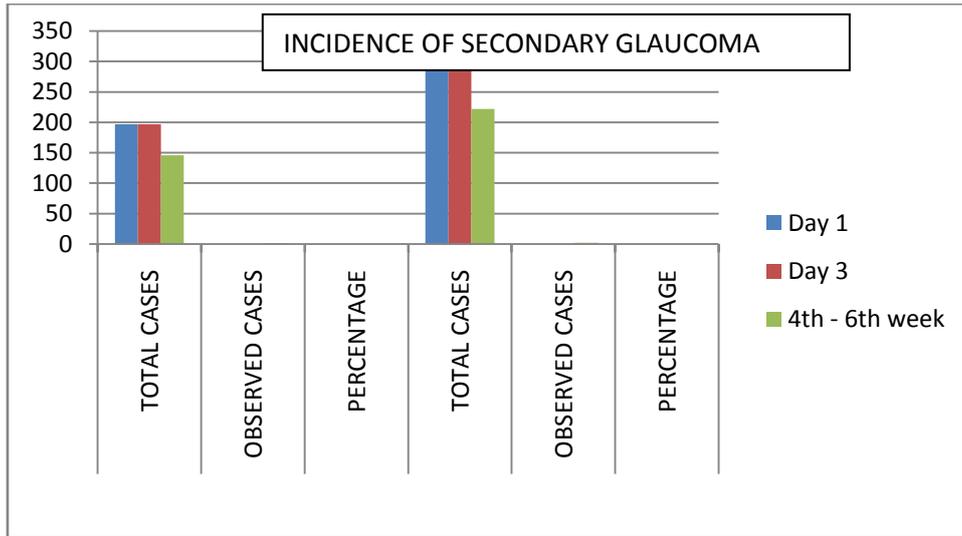


Barchart.4

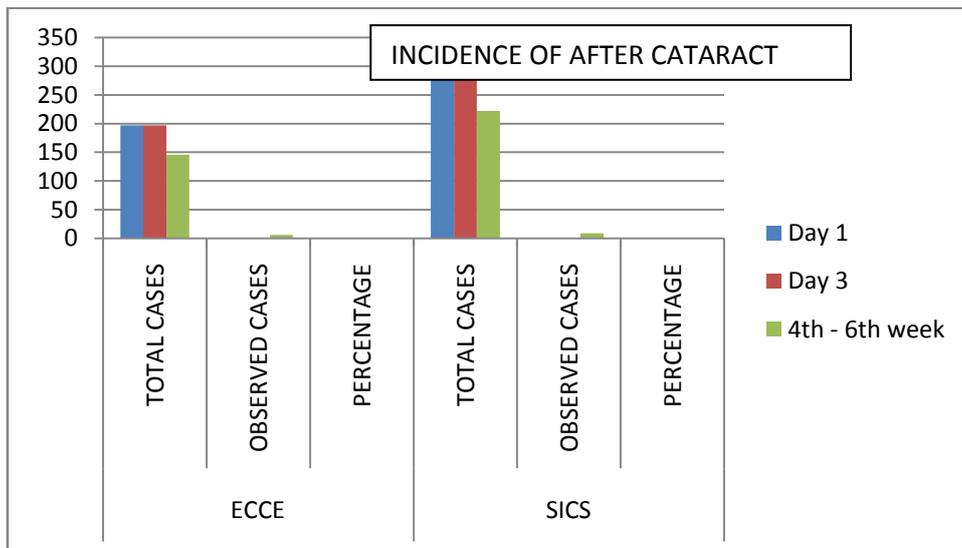


Line diag.3

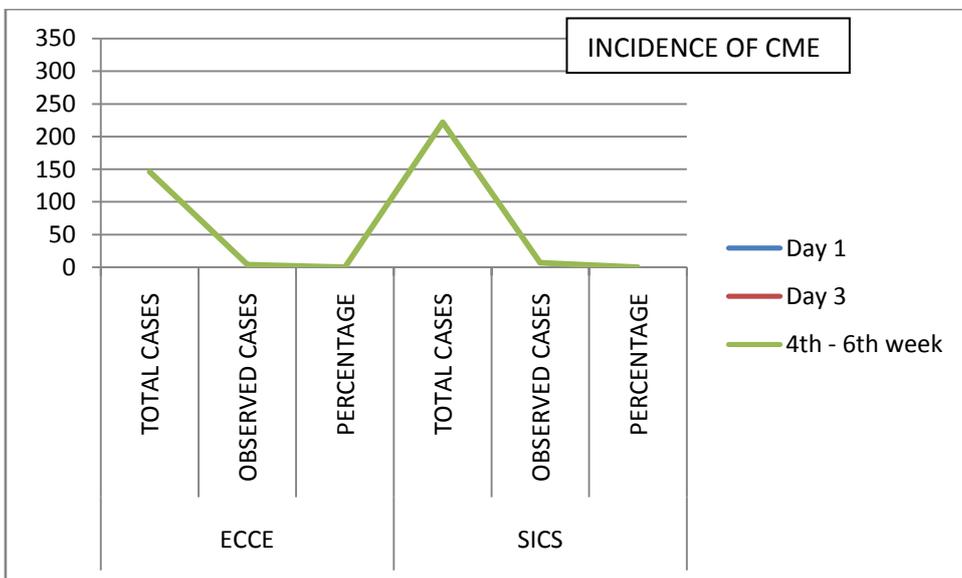




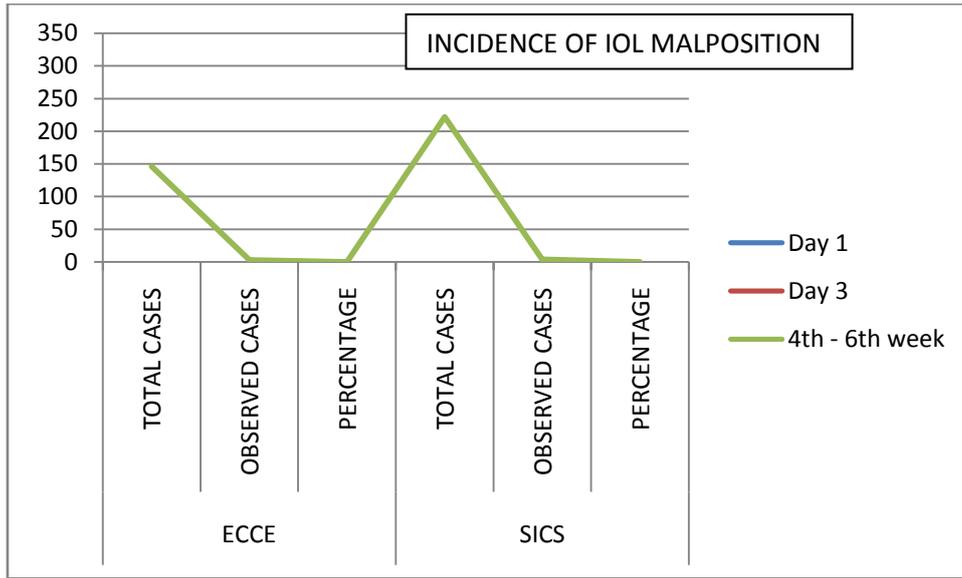
Barchart.5



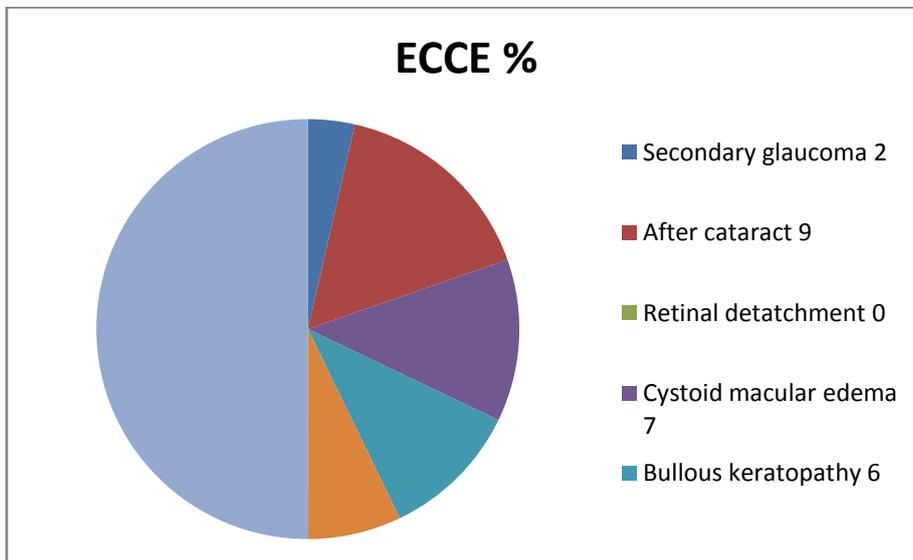
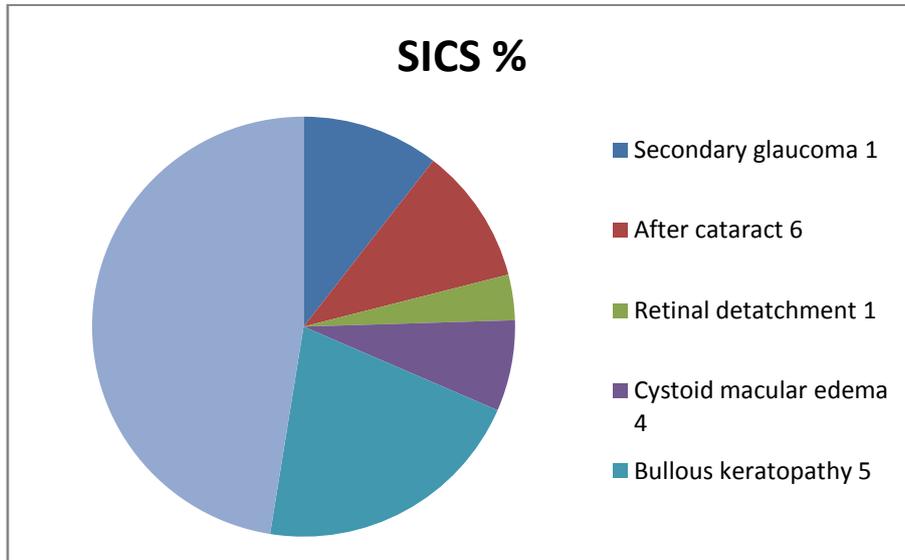
Barchart.6



Line diag.5



Line diag.6



#### IV. Discussion

In our study, which was done in 486 patients from 2154 camps, male preponderance was evident and mostly were aged between 60-69 years which was on par with other studies of Grodle and Cinotti (1930) (mean age: 65 years). Incidence of striate keratopathy was about 5.8% (Bar chart.1) which was comparable to the study by Venkatesh et al<sup>6</sup> (2004) where there were 4 out of 92 (4%) cases of striate keratopathy. Corneal edema was found in 1.36% (Bar chart.2) which was on par with 1.54% found by Civerchia et al<sup>7</sup> (1996). Iris prolapse which was found in about 2.05% cases (line diag.1) were also comparable to 2.9% found by Haileselassie et al<sup>8</sup> (2002). Moorthy et al<sup>9</sup> (2001) reported 3 out of 723 (0.4%) cases suffering from hyphaema which was similar to our study result which showed 0.5% incidence (line diag.2). Occurrence of uveitis was about 6.1% (bar chart.3) which was similar to 5.9% reported by Venkatesh et al<sup>6</sup> (2004). Civerchia et al<sup>7</sup> (1996) analysed and found 1.92% incidence of cortical remnants which was on par with our study which showed 1.38% (line diag.3). The incidence of endophthalmitis was found to be similar in our study (0.5%) in comparison to other studies (0.15% in Civerchia et al<sup>7</sup>) (bar chart.4). Incidence of secondary glaucoma in our study (0.68%) remained consistent with other studies (Civerchia et al<sup>7</sup> 0.67%) (bar chart.5). Moses et al<sup>10</sup> (2002) reported 2% cases of cystoid macular edema comparable to our study which reported 2.73%. Certain complications like corneal edema, iris prolapse, uveitis, retinal detachment, bullous keratopathy and cortical remnants were higher in ECCE group than SICS group and certain complications like striate keratopathy, secondary glaucoma, after cataract and IOL malposition were almost equal in both ECCE and SICS group and final visual outcome were higher (86%) in SICS group than ECCE group (81%). Overall in both the cases, the incidence of complications were much less.

#### V. Conclusion

Considering the above study wherever the requisite surgical expertise is available, SICS is recommended as the procedure of choice for effective rehabilitation of cataract patient. Overall in SICS and ECCE complications occur, but are less. Wherever the required surgical expertise is available, SICS is recommended as the procedure of choice for effective rehabilitation of cataract patient.

#### References

- [1]. Duke Elder S : System of Ophthalmology, disease of lens and vitreous, glaucoma and hypotony, volunteers. 11, St. Louis, CV Mosby, 1969, p.248-64
- [2]. Minassian DC, Mehran V. 3.8 million blinded by cataract each year. Projection from the first epidemiological study of incidence of cataract blindness in India. Br J Ophthalmology 1990;74:341-3. Bener A, Zirie M, Musallam M, Khader YS, Al-Hamaq AOAA. Prevalence of metabolic syndrome according to adult treatment panel III and international diabetes federation criteria: a population-based study. Metabolic Syndrome and Related Disorders. 2009;7(3):221-230
- [3]. Govt. of India annual report, ministry of Health and family welfare, New Delhi
- [4]. WHO: global initiative for elimination of avoidable blindness report no. WHO/PBL/97.61 Brunzell JD, Davidson M, Furberg CD, et al. Lipoprotein management in patients with cardiometabolic risk: consensus statement from the American Diabetes Association and the American College of Cardiology
- [5]. Natchiar God, Robin A L, Thulasiraj et al. Attachment of backlog of India's curable blind, the Aravind eye hospital model, 112:987-993
- [6]. Venkatesh R, Muralist Krishna R, Linda Civerchia Balent: outcomes of high volume cataract surgery in a developing country. Br J Ophthalmology 89:1079-83.
- [7]. Civerchia L, Rabindra RD, Alan Balent: high volume intraocular lens surgery in a rural eye camp in India 27:200-208
- [8]. Haileselassie T, Yared Asefa, Samson Bayu: outcome of ECCE with PC IOL implantation performed at a cataract surgical campaign. Ethiop J health dev 16(1), 77-83.
- [9]. Murthy GVS, Lean B Elwein: a population based eye survey of older adults in a rural district of Rajasthan. AAO, 108:686-692
- [10]. Moses C. Chiramba MD: country wide monitoring of cataract surgical outcome. Community Eye Health vol. 15, 58-59.
- [11]. Parson's disease of the eye, 22<sup>nd</sup> edition

Dr Sarita Panda "Complications of ECCE And SICS With IOL Implantation In Reach-In Camps In A Tertiary Healthcare Centre-An Observational Study." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 9, 2018, pp 05-12.