



A Study of Cataract Surgery, Its Complications & Visual Outcome in Diabetes

KEYWORDS

Diabetes, cataract, post operative complications, BCVA(Best corrected visual acuity)

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ABSTRACT Aim of the study is to find the incidence of cataract development with regard to age, sex, complications of cataract surgery(pre & post operative)and visual outcome after surgery. Certain preventive measures are adopted to reduce the complications.

A prospective study was done in Regional Eye Hospital, Kurnool Medical College ,KURNOOL A.P. State from JANUARY 2007 to September 2008 on 100 patients. It was observed that both intra & postoperative complications are noticed more in diabetics. Meticulous aseptic precautions, good glycemic control —HbA1C are helpful in reducing the complications& good visual outcome.

INTRODUCTION:

Diabetes mellitus is an ubiquitous disease in ancient history being present in about 3% adult population .It increases the cataract development &is the next common cause of blindness after retinopathy. The global prevalence of Type 2 DM is expected to double by 2025 & may reach 300 million people. In India, urbanisation factor, life style modification changes adversely affect metabolism leading to an increase in diabetes .In diabetes there is altered lens metabolism where there is increase in sorbitol intracellularly leading to early cataract formation.Cataract surgery in.

Diabetics needs meticulous care as there is increased in incidence of complications in them compared to general population.

MATERIALS & METHODS:

This prospective study was carried out in the department Of Ophthalmology, Kurnool Medical College, Government General Hospital, Kurnool from January 2007 to September 2008. One hundred patients having diabetes who presented to our department for cataract surgery were included in this study. Out of 100, eighteen patients lost follow up. So only 82 patients were considered for statistical study.

INCLUSION CRITERIA:

Patients having biochemically proven diabetes mellitus. Complete /Partial pacification of lens with V/A< or=6/24. Good glycemic control preoperatively either by insulin or by oral hypoglycaemic drugs. Age>40 Yrs

A detailed h/o regarding diabetes, Ocular examination was done. Local ocular problems, motility disorders were excluded. All patients underwent Small incision cataract surgery.

TABLE 1:

Post operative complications-48 hrs:

COMPLICATIONS	NO OF PATIENTS	PERCENTGE
CORNEAL EDEMA	20	24.39
POST OPERATIVE INFLAMATION (IRITIS)	10	12.19
RETAINED CORTICAL MATERIAL	3	3.65
RAISED IOP	3	3.65
IIS PROLAPSE	2	2.43
WOUND LEAK	1	1.21
IOL MALPOSITION	1	1.21

TABLE 2:

Long term complications:

COMPLICATIONS	NO OF PATIENTS	PERCENTAGE
CYSTOID MACULAR EDEMA	4	4.7
RECURRENT UVETIS	2	2.43

TABLE 3:

Incidence of CME in different studies and present study:

1.	Kutschan A et al	6.8%
2.	Ivannic et al(Antropol 29-2005)	4%
3.	David spalton — London	2%
4.	Hakki-BIRNCI-OMU-TIO 21(1) 12-17-2003	10%
5.	In the present study	4.7%

TABLE 4:

Best corrected visual acuity BCVA- 6 weeks

Visual Acuity	No of patients	Percentage
<6/60	9	10.9
6/60-6/36	3	3.65
6/24-6/18	15	18.29
6/12-6/6	55	67

DISCUSSION:

The incidence of cataract in diabetes with regard to age was evaluated& this study shows that nearly half(46.34%) of patients are between 51-60 yrs.This correlated with HEALTH&NUTRITION EXAMINATION SURVEY &FRAMINGHAM STUDY. Gender standardised prevalence of diabetes in Kurnool showed that it is higher in females.

Nearly 78% showed cortical changes,17.07%had nuclear changes, PSCCs in 3.65%, ASCC in 1.2% .Posterior sub capsular cataract was equal in diabetics & non diabetics. Anterior sub capsular cataract was more in diabetics. Classical snow flake variety was found only in one patient. Hypertension was observed in 24.39% patients which was the most common associated systemic disease.Pre operative glycemic control was achieved by Oral hypoglycaemic drugs or Insulin.Reg-

ular Insulin was used when plasma glucose was >300mg/dl. Among 82 patients 96.3% were Type 2 DM & 3.67% were Type 1 DM. The prevalence of Type 2 DM in Kurnool was 11.6% and duration of diabetes is a crucial factor in pathogenesis of diabetic disease.

Peribulbar anaesthesia was used in all patients who underwent cataract surgery. It prevents increase in cortisol and glucose which are seen under general anaesthesia & obviates the need of post operative starvation.

Intra operative complications were noted in some patients & intra operative miosis was the most common complication. This coincided with Kutschan A. et al study & Zaczek A et al study.

Posterior capsular rent occurred in 7.3% of patients. Zonular dialysis was 2.43% and vitreous loss in 9.75%. This is higher than non diabetics where pc rent occurred in 3% , vitreous loss in 0.8%

Post operative corneal oedema 24.39% post operative inflammation 12.19% compared to 1.8% in non-diabetics. Cystoid macular oedema was the most common complication occurred in 4.7%. This can be complicated with Kutschan et al study 6.8% & Invannic et al study 4% Hakiki Birinci-omutoglu 2012 study 10% recurrent uveitis 2.43%

VA after 6 weeks-67%-6/12 between 33% <6/12 due to auto complication and co existing co morbidity . Macular oedema was responsible for V/A <6/60 in 4% chronic corneal edema 3% recurrent uveitis 2.43% for the decrease vision.

SUMMARY AND CONCLUSION:

Out of 100 diabetic patients who underwent cataract surgery 82 patients were completely followed up to 6 weeks. Diabetes leads to an increase in age related cataract development & more so in females. The cortical variety being the commonest. Hypertension and obesity were found to be more associated with diabetes. A thorough ocular evaluation before cataract surgery is mandatory. Pre operative preparation especially mydriasis is a crucial factor in determining the outcome of surgery. LA with peribulbar is the anaesthesia of choice. In this study intraoperative myosis 14.6% was the most common intraoperative complication followed by posterior capsular rent 7.31% and vitreous loss in 9.75%. These were more in diabetics compared to non-diabetics. Post op corneal oedema 24.39% and post op iritis 12.9% were also noted more in diabetics. Cystoid macular oedema was the most common long term complication 4.7%. BCVA (BEST CORRECTED VISUAL ACUITY) 6/12 or better was achieved in 67% of cases BCVA of 6/18 to 6/24 in 18.29%. BCVA < 36 in 13.4%.

Best results of cataract surgery in diabetics were achieved by good glycemic control especially Hb A1c, taking care of lid and adnexal infection and dacryocystitis. Post operative topical antibiotic and steroid was used for a period of 6 weeks and long term follow up was done regarding retinopathy complications of surgery.

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