IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 4 Ver. VII (Apr. 2015), PP 57-60
www.iosrjournals.org

Evaluation Of SICS In Present Perspective

Dr. (Mrs.) Padmini Warkhede, Dr. Navneet Saxena,
Dr. Pervez Ahemed Siddiqui
[1] *Asstt. Professor, M.B.B.S.,M.S. (Ophthalmology), N.S.C.B. Medical College, Jabalpur (M.P.)*
463, Goodwill Complex, Napier Town, Jabalpur (M.P.)-482001
[2] *Professor & Head, M.B.B.S. M.S. (Ophthalmology), N.S.C.B. Medical College, Jabalpur (M.P.)*

Abstract: *Purpose – To have an overview of SICS in relevance to modern cataract surgical technique.*
Method: *The present study was conducted in 506 cases in upgraded department of Ophthalmology, N.S.C.B Medical College, Jabalpur(M.P.) during the academic session July 2005 to September 2006. Cataract surgeries were carried out in patients after screening and patients not found fit for surgery were excluded. Patients underwent manual SICS with posterior chamber intraocular lens implantation. Postoperatively all patients received routine postoperative medications for 6 weeks. Patients were followed up at regular interval for 6 weeks.*
Result: *A total of 506 patients were included in this study. Maximum no. of patients had preoperative visual acuity of <6/60. Most common intraocular complication was premature entry encountered in 1.97% patients while striate keratopathy was most common postoperative complication encountered in 5.93% patients. PCIOL implantation occurred in most of the patients (99.01%). At the 7th day best corrected visual acuity was between 6/60 – 6/18 in most of the patients (58.89%). At the end of 6th week best corrected visual acuity in most of the patients (91%) was >6/18.*
Conclusion: *Our study addressed the efficacy of SICS in terms of it's relevance in modern cataract surgical era.*

I. Introduction

Cataract is the leading cause of blindness in India. According to the most recent study by WHO 47.8% of total global blindness is due to cataract and in South Asia region which include India 51% of blindness is due to cataract. Management of this malady is cataract surgery. The aim of quality modern cataract surgery is to achieve an optimal visual result by removal of reduced nucleus through small incision without inflicting irreparable damage to ocular structural integrity. In achieving this goal SICS can be very helpful. This technique has proven to be advantageous in both setting medical and socioeconomic. SICS does not rely on highly trained maintenance personal and reduce the amount of disposable paraphernalia used in cataract surgery. These aspect make manual SICS ideally feasible to perform in most of developing world.

Aim: To have an overview of SICS in relation to it's complications and post operative visual outcome.

II. Material & Method

The present study was conducted in 506 cases during the academic session of July 2005 to September 2006 in upgraded Department of Ophthalmology, N.S.C.B. Medical College & Hospital, Jabalpur. In our study all senile cataract were included while cataract associated with systemic disease, congenital anomalies and complicated cataract were excluded.

All patients were subjected to thorough general and systemic examinations. All patients fulfilling the inclusion criteria were subjected to detail ocular examination including vision using Snellen's chart, Slit lamp examination, fundus examination, whenever possible, keratometry, A scan biometry, intraocular pressure and Sac patency.

Apart from it routine systemic investigations like RBS, blood pressure, urine analysis for sugar and albumin where it was necessary was carried out in all patients. Medical checkup was done regarding fitness of cataract operation preoperatively. Table Actetazolamide was given to all patients and pupil dilation and its maintenance was achieved by tropicamide and phenylephrine combination eye drop and flurbiprofen eye drop 1hr before surgery.

All patients underwent SICS under peribulbar anesthesia with facial block under strict aseptic condition. All patients were operated by ophthalmic consultants and at the end of surgery S/C Genta + Dexa injection given followed by Pad & Bandage to all patients. Post operatively all patients received oral ciprofloxacin for 5 days along with serratiopeptidase, NSAIDS and B complex. All patients received broad spectrum antibiotic steroid eye drop for 6 weeks in tapering dose along with topical β blocker and cycloplegics

wherever necessary. Additional treatment was given according to their postoperative findings subsequently. All patients were followed up at 1st, 3rd and 6th week. In each visit vision was recorded along with detail examination if Anterior and posterior segment. After 6th week refraction was done and appropriate glasses were prescribed.

III. Result

506 cases were done by surgeons during the period July 2005 to Sept. 2006 in Upgraded Department of Ophthalmology, N.S.C.B. Medical College and Hospital, Jabalpur (M.P.)

Preoperative Visual Acuity

S. No.	Visual Acuity	No. of Patient	Percentage
1.	<6/60	308	60.87%
2.	6-60 – 6/36	157	31.03%
3.	>6/36	41	8.12%

This chart shows preoperative visual acuity in maximum no of patients having visual acuity of <6/60 was 60.89%.

Intra – Operative Complication

S. No.	Complication	No. of Patients	Percentage
1.	Button holing	7	1.38%
2.	Premature entry	10	1.97%
3.	Scleral disinsertion	2	0.39%
4.	PC Rent	6	1.18%
5.	Irido dialysis	2	0.39%
6.	Hyphema	4	0.79%
7.	Iris Damage	4	0.79%
8.	Sphincter tear	2	0.39%
9.	Recurrent iris prolaps	8	1.58%

This chart shows premature entry was most common intra operative complication encountered in 10 patients i.e. 1.97%.

Postoperative Complication

S. No.	Complication	No. of Patients	Percentage
1.	Striate Keratopathy	30	5.93%
2.	Iritis	12	2.37%
3.	Irregular pupil	2	0.39%
4.	Hyphema	5	0.99%
5.	Wound leakage	2	0.39%
6.	Decentered IOL	2	0.39%

This chart shows most common complication in the post operative period was striate keratopathy (5.93%)

Type Of Lens Implanted

S. No.	Type of Lens	No. of Patients	Percentage
1.	PCIOL	501	99.01%
2.	ACIOL	3	0.59%
3.	Aphakia	2	0.39%

This chart shows PCIOL was implanted in most of the patients (99.01%)

Postoperative Vision On 7th Day

S. No.	B.C. Visual Acuity	No. of Patients	Percentage
1.	<6/60	22	4.34%
2.	6/60 – 6/18	298	58.89%
3.	>6/18	186	36.76%

This chart shows maximum no. of patient's (58.89%) had visual acuity between 6/60 – 6/18 on 7th day.

Post Operative Vision At 6th Week

S. No.	Best corrected Visual Acuity	No. of Patients	Percentage
1.	>6/18	460	91%
2.	6 – 60 – 6/18	32	6.32%
3.	<6/60	14	2.76%

This chart shows maximum no. of patient's (91%) visual acuity was >6/60 at 6th week.

IV. Discussion

The present study was conducted to discuss SICS in terms of visual outcome and various intra – operative and postoperative complications.

Most common intra-operative complication encountered in this study was premature entry (2.97%) which was successfully managed by suturing at the end of the surgery. This complication was also noted in a study done by kimura in 5.9% cases, Jansuke Akura in 2.7% cases, Gurdeep Singh in 1.33% cases and K.N. Jha in 4.35% cases. Other common intra-operative complication were button holing (1.38%) sclera disinsertion (0.39%), PC rent (1.18%) iridodialysis (0.39%) hyphema (0.79%) iris damage (0.79%), sphincter tear (0.39%) recurrent iris prolapse (1.58%). All of them were managed nicely.

Striate Keratopathy was most common postoperative complications (5.93%) noticed in our study and managed by prescribing hyperosmetic agents and topical steroid other post operative complication were iritis (2.37%), irregular pupil (0.39%), hyphema (0.99%), wound leakage (0.39%) decenterged IOL (0.39%), Hideya Kimura et al (1999) also noticed corneal oedema in 3.9% cases. Sergio et al (1999) corneal oedema in 14% cases in his study. Tulika Dabral et al (2000) noticed serve corneal oedema in 1.5% of cases. P. Mishra (2000) noticed this complication in 10% of cases. K.N. Jha (2004) noticed mild S.K. in 7.2% cases.

The post operative visual acuity was remarkably good in all cases due to successful management of intra and post operative complications. Out of 506 patients 36.76% achieved good vision (>6/18) while most of the patients 58.89% were having vision between 6/60 – 6/18 and 4.34% patients had vision >6/60 after 7 days. After 6 weeks most of the patients attained good vision (91%). While 6.32% patients had better vision (6/18 - 6/60) & only 2.76% patients had poor vision i.e. <6/60. Similar study conducted by Sudhakar et al in 1989 reported visual acuity of 6/12 or better in 80.7%. Another group Venkatesh et al in 2005 in their study achieved BCVA of 6/18 on better in 80.7%. Similarly Hennig et al in their study reported a BCVA of 6/8 or better in 96.2% & 88.3% respectively.

V. Conclusion

Aim of today's cataract surgery is not only to remove cataract but to induce least possible surgical insult to the eye in an endeavor to emerge with the best and fastest possible visual recovery. Small incision cataract surgery fulfills all these criteria. Like other surgery SICS has various merits and demerits. However the final outcome of SICS is quite good and it also has universal applicability, good patient comfort, economical and earlier visual rehabilitation which suits it's applicability in modern cataract surgical era.

References

[1]. Ana Matheu: Manual nucleofragmentaion and endothelial cell loss. J. Cataract Refract surg., Sept 1997, Vol.23, P.995-998.
[2]. Arrugas ocular surgery:Mc grew Hill Book Co: : 109 -15, 1963.
[3]. Benjamin F. Boyd: Management of Complications during phacoemulsification. Highlights of Ophthalmology. 2000; No.3, p.3-13
[4]. Blumenthal M.: Manual Extra capsular Cataract extraction. The present state Of Art Klin Monatsbl Augenheikd 1994 Nov. 205(5) 266-270.
[5]. Bryant W.R.: The sclera pocket incision. George W. Rozakis. Alternative small Incision Techniques New Delhi; Jaypee Brothers 1995, 1st Ind edition P.1-44.
[6]. Centurion V.: Management of Complications during phacoemulsification Highlights of Ophthalmology 2000 No. 3, P.4-13
[7]. Cravy T.V: Routine use of lateral approach to cataract extraction to achieve Rapid And sustained stabilization of postoperative astigmatism J. cataract Refract Surg. 1991; 17; 415-423.
[8]. Duch Mestres: Intraoperative complications of Ecceisics J Cat ref. Seng 25: 1275 -79 1999.
[9]. Drews R.C.: Management of complication during post chamber implants in Ophthalmology 2:175 – 76, 1998.
[10]. Ernest P.H: Introduction to sutureless surgery. In: Gills JP, Sanders Dr. eds small Incision cataract surgery; Foldable Lenses, one Stitch surgery Sutureless surgery. Astigmatic Keratotomy thorofare, NJ, Slack Inc. 1990, 103 -105.
[11]. Fine I.H: Infinity suture: modified horizontal suture for 6.5 mm incision. In: Gills JP, Sanders Dr, eds. Small incision Cataract Surgery; foldable Lenses, One Stitch surgery, Sutureless Surgery, Astigmatic Keratotomy. Thorofare, NJ, Slack; Inc. 1990:191 – 196.
[12]. G. Singh: Manual small incision sutureless modified phaco-sandwich technique
[13]. Using Singh Vectis. Asian J. Ophthalmol, 2001 Vol.3, No.2.
[14]. George W Rozakis:Hybrid Phacoemulsification Technique. George W. Rozakis. Alternative Small Incision Techniques. New Delhi; Jaypee Brothers, 1995, 1st Ind. Edition, P.111 – 138.
[15]. Gerald Keenar: The Nucleus Division Techniques for small Incision. George W. Rizakis. Alternative small Incision Techniques. New Delhi; Jaypee Brothers, 1995, 1st Ind. Edition, P. 163 – 191.
[16]. Gills J.P.: Small incision cataract surgery: small incision cataract surgery: Foldable Lenses, One Stitch Surgery, Sutureless Surgery, Astigmatic Keratotmy. Thorofare, NJ, Slack, Inc. 1990; 147 – 150.
[17]. Hideya Kumura: Extracapsular cataract Extraction with a sutureless incision for dense Cataracts. J. Cataract refracts. Surgery September 1999; Vol.25;P. 1275- 1279.
[18]. Howard Gimbel: Management of Complications during Phacoemulsification. Highlights
[19]. Of Ophthalmology. 2000: No.3, P3.
[20]. Jack A Singer: Frown incision for minimizing induced astigmatism after small incision cataract surgery with rigid optic intraocular lens implantation. J. Cataract Refract surgery Supplement 1991; Vol. 17, P. 677 – 688.
[21]. Jansuke Akura: Manual sutureless cataract surgery is using a claw vectis J. Cataract Refract Surgery, April 2000, Vol. 26 P.493 – 496.
[22]. Jaffe Norman S.: Cataract surgery & its complication 6th edition.

[23]. Kratz R.: The sclera pocket incision. George W. Rozakis. Alternative small incision techniques New Delhi: Jaypee Brothers, 1995, 1st Ind. Editio, p. 1 – 44.
[24]. K.N. Jha, Brig DP Vats: Manual Small incision cataract surgery: experience at a Military Hospital MJAFI 2006, 62:212 – 215.
[25]. Luther Fry: The phacosandwich technique Alternative small incision techniques Slack incorporated 1995.
[26]. Luther Fry:The phacosandwich Technique George W. Rozakis. Alternative small Incision Techniques New Delhi, Jaypee Brothers 1995 1st Ind Edition P.71 – 100.
[27]. McFarland M.S.: McFarland surgical technique. In: Gills JP, Sanders DR. eds. Small incision cataract surgery: Foldable lenses, one – stitch surgery, suturless surgery. Astimatic keratotomy thorofare NJ, Slack Inc. 1990, 107 – 116.
[28]. Natchiar G.: Complication of manual small incision cataract surgery and their management. Natchiar G. Manual small incision cataract surgery – An Alternate Technique to instrumental Phacoemulsification. Madurai, Arvind Eye Hospital ; 2000 1st Ed. P. 35 – 42.
[29]. P Mishra : Personal Communication to Dr.P. Mishra 24 , South Car Street Chidambaram , Tamilnadu -608001 .
[30]. Tulika Dabral : Maunal small incision cataract surgery (SICS) in high quality, high volume setup – A great Alternative to instrumental phaco.