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Livewire

INFECTION CONTROL

NEWS LETTER

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FOREWORD BY DR. QURESH MASKATI

Dr. Quresh Maskati
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2014-2015

Dr. Quresh Maskati has been in solo private practice since almost 30 years. His fields of interest include cornea and ocular surface surgery, the Pintucci and Boston Keratoprosthesis, strabismus and oculoplastics. He has been the youngest president of the Bombay Ophthalmologists' Association (2000-01) and Maharashtra Ophthalmological Society (1995-96) in the history of these societies. Currently the President of the AIOS, he is the recipient of numerous awards, gold medals and named orations. He has chapters in 12 textbooks of ophthalmology, over 2 dozen peer reviewed articles published and is an advisor to 2 IJOs (Indian Journal of Ophthalmology and International Journal of Ophthalmology). He has also published a book "Simplifying Eye Care" for patients, now in its second edition, available in leading bookstores.

It gives me immense pleasure to write the foreword for the special issue of "Livewire" to be released at the AIOC Delhi, in February 2015. Infection control, unfortunately, is never taught in medical colleges. Most of us pick up the rudiments from observing our seniors and even the theatre assistants...how to gown up, wear gloves, clean and drape the patient, what to touch and not to touch in the theatre etc.

Shortly after we complete our post-graduation, we enter the big bad world of private practice. Some of us have our own OT, others work in shared OTs with fellow eye surgeons or other surgeons. Now, the onus is on us to train our staff in infection avoidance, which is ironical, as we have never been taught this ourselves!

We ask senior established eye surgeons for tips, visit some 'good' OTs and muddle through. All goes well for some time and we become complacent, convinced we are doing the 'right' thing, till one fine day a catastrophe occurs and in the inquiry that follows, we realise how many things we were doing or not doing contributed to the mishap.

"Livewire", by taking us through the absolute basics of infection control, is a most essential reading for all of us, till such time that every OT can establish its own protocols or better still, lay down written standard operating procedures or SOPs that can be shared with all our staff.

The All India Ophthalmological Society (AIOS) is appalled at the cluster infections which occur in high volume at centres and camps, giving all of us unwanted negative publicity. The AIOS, therefore, had infection control and cluster infections as the topic for the first ever webinar from our new AIOS HQ, which was beamed live to 60 medical colleges (courtesy Cipla) and to all 11,000 AIOS members who have shared their email ID with the AIOS secretariat. This took place on Saturday, the 10th of January, 2015.

We received a tremendous amount of positive feedback for the event. This has prompted us to request Cipla to distribute CDs of the webcast from their AIOC stall. The webcast is just a click away for those who visit our website for a month, after which it will continue to be available for all time to come on the CiplaMED website.

I invite you to make this "Livewire" publication more interactive by sending in your suggestions for topics where you want more emphasis or sending in questions, doubts etc. on any topic covered in each issue, so that the extremely dedicated editors can take note and answer each query in the subsequent issues and of course, immediately on email to the questioner.

I wish every AIOS member an infection-free 2015!

QUALITY OF CATARACT SURGERY IN INDIA – PRESENT SCENARIO

Mr. R. D. Thulasiraj,
Executive Director-
LAICO*

Introduction

India has the legacy of community-oriented eye care services for almost a century and its focus continues to remain on cataract surgery. In the recent years, there has been a small but perceptible shift to becoming more comprehensive. This legacy has helped in integrating compassion as an ingredient in the eye care services. This has led to the development of eye care as an integral part of the service provision. This has also helped India in achieving the lead position amongst all developing countries in the provision cataract surgeries, using the Cataract Surgical Rate (cataract surgery/year/million population) as the metrics. While this led to a significantly enhanced number of surgeries, a focus on outcomes and quality came into being just during the last decade and a half. With rapid demographic, economic and social changes happening in India, this is leading to greater affordability, greater awareness and with it greater expectation. It is in this context that there is an urgent need to bring about a greater focus on quality and make it a movement within the ophthalmic community.

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Dimensions Of Quality In Cataract Surgery

THIS CAN BE VIEWED ESSENTIALLY FROM TWO DIMENSIONS:

1. From a programme perspective looking at outcomes of different procedures in different settings, in different institutions, etc.

2. Safety and outcome from an individual patient's perspective.

Both these perspectives are important since the programme perspective will continually make sure that there is a focus on the big picture in terms of surgical techniques, training needs, monitoring systems etc. while the later will ensure that we have a surgical protocol and a work process which will minimize risk of infections and other complications to result in the best possible outcome for each individual operated.

1) CATARACT SURGICAL QUALITY FROM PROGRAMME PERSPECTIVE

Probably the first time that the notion of quality in cataract surgery came into sharp focus was at a consultation in 1998 organized by the World Health Organization in Geneva. This was a comprehensive review of the cataract services worldwide looking at coverage, barriers, affordability, and outcomes. With respect to quality, the following recommendations were made:[1]

A) EYE CAMPS

With more widespread eye care infrastructure, there is less of a need to perform surgical eye camps in improvised settings. Available data shows that hospital-based surgeries give better visual outcomes, in order to improve the quality of cataract surgery and to influence health-seeking behavior; it is recommended that screening eye clinics be done in the community and cataract surgeries be performed in hospital settings. However, it is recognized that in some situations, this may not be feasible and in such instances, eye surgical camps may be performed, providing that sufficient care and supervision are provided to ensure quality.

B) MONITORING CATARACT OUTCOME

There is relatively little data available on the outcome of cataract surgery, but recent studies suggest that the presenting vision in 20% or more of cases in the developing world have a poor outcome (actually less than 6/60). Patients with poor outcomes may produce negative attitude towards eye care in the community. The causes of poor outcome include pre-existing eye disease, surgical complications and post-operative refractive errors. It is, therefore, recommended that:

1) Guidelines for preferred practices pre-, intra and post-operative for cataract surgery be developed for use in national programmes.

2) Recommended guidelines and protocols be used on a regular basis by eye surgeons to monitor the outcome of their own cataract surgery, in order to improve the visual outcome results.

The above recommendations were based on evidence of surgical outcomes from surveys done in China & Nepal, using a common protocol. The same protocol was then used in India as well, which also showed similar outcomes. [2, 3]

C) IMPROVING CATARACT OUTCOMES

Use of IOLs

An important cause of poor visual outcome after cataract surgery is lost or broken aphakic spectacles. It is, therefore, recommended that there be a move towards the routine use of IOLs in situations where appropriate skills and facilities can ensure safety and affordability. Efforts should be made to provide good-quality cataract surgical training.

Following these recommendations by WHO, at a meeting organized by the Ministry of Health, Government of India, to develop the Xth Five Year Plan, these recommendations were incorporated in the plan and the guidelines are adopted with adequate budgetary provisions for training, equipment and supply of IOLs. These were then communicated to the various stakeholders. The Government of India and the international funding agencies committed sufficient resources to train the ophthalmologists in cataract surgery with IOL implant and invested in the infrastructure by providing microscopes, ultrasound scan, YAG lasers, etc. A monitoring system was also put in place but, unfortunately, it continues to be used more to support the reimbursement of subsidies to voluntary eye hospitals rather than to initiate a dialogue for quality improvements.

D) GUIDELINES TO MONITOR THE OUTCOME OF CATARACT SURGERY

The fundamental aim is to provide useful vision to the patient. Visual acuity must be measured in each eye of all patients undergoing cataract surgery for age-related cataract pre-operatively and any time between discharge and 12 weeks, using available correction (and best correction). The following levels of visual outcome should be aimed for:

Post-operative Acuity		Available Correction	Best Correction
Good	6/6-6/18	80% +	90% +
Borderline	<6/18-6/60	15% -	5% -
Poor	<6/60	5% -	5% -

2) SAFETY AND OUTCOME FROM AN INDIVIDUAL PATIENT'S PERSPECTIVE

Ensuring practices that result in better outcomes and safety to the patients presents many more challenges, since this has to deal with the varying skill levels, perceptions and beliefs of thousands of ophthalmologists, most of whom have complete freedom over what they do and often dictate how things are done in a setting. Attempts have been made to bring about certain levels of standardization in the surgical protocols. Some of the larger institutions which employ several ophthalmologists have such protocols in place, either in writing or just in practice. The Government of India, several years back, brought out a series of clinical practice modules along the lines of the 'Perfect Practice Guidelines' brought out by the American Academy of Ophthalmology. This series from the Government of India includes a module on cataract surgery. However, it is not clear if such standards for best practice have become mainstream at the academic centers offering residency training, both in the training and in the regular delivery of cataract surgery.

MONITORING

Very few ophthalmologists or centers have detailed medical records which document all complications and outcomes. Not many places have proactive measures to ensure longer term follow-ups, so that the final outcomes can be assessed. It is even rarer to see systematic analysis of surgical complications and outcomes, which in turn could lead to improvements in the surgical protocol and its practice.

Documenting the surgical procedure, the complication and the outcomes are fundamental to make sure that systematic improvements happen. It will also be very helpful if such complications and outcomes can be

benchmarked with other eye care providers in a non-threatening way. Today, there is technology to make this possible by creating web-based databases to facilitate this. Such benchmarking systems are already in vogue, promoted by the American Academy of Ophthalmology to continually improve the quality of cataract surgery amongst its member ophthalmologists. A similar attempt is underway to launch such a website tool by the Lions Aravind Institute of Community Ophthalmology (LAICO). Once each institution begins to maintain good medical records, such benchmarking would be the logical next step.

CLINICAL PROTOCOLS

It is extremely important to have a standard clinical protocol[4] and then have them broken down into a series of checklists. This would ensure that all the hospital staff can be trained in the same manner to a prescribed minimum standard. Such protocols and checklists need to exist for:

- Pre-op patient preparation and work-up
- Cleaning and packing of surgical instruments
- Sterilization and documentation
- Surgical supplies and quality checks, especially for the solution which often seems to be the underline cause for cluster infections
- Discharge

There is growing evidence that systematic use of checklists have significantly reduced medical errors and complications, thus, resulting in better outcomes[5]. In the Indian scenario, there is little evidence of such a standard practice being in place at the institutional level. As a result of this and frequent turnover of ophthalmologists, especially in the voluntary sector, the surgical process varies tremendously between institutions and even within institutions, as and when the ophthalmologists change. Unfortunately, such variations are not a result of a systematic quality improvement process but rather a reflection of what an individual ophthalmologist is used to doing or is comfortable doing.

CONCLUSION

We need to evolve methods by which we first address the issue of quality within the narrow perspective of ensuring better surgical outcomes. This has to be done both at a programme level and at a hospital level. Sterilization, documentation, analysis and systematic review are the cornerstones of ensuring quality and its continuous improvements. Once this has been well-established, the notion of quality should be enlarged to address issues in coverage, equity and overall patient satisfaction.

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POST-OPERATIVE ENDOPHTHALMITIS
-CLUSTER OCCURRENCES
-OPHTHALMOLOGIST'S PERSPECTIVE

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(Acknowledging the help of a young observer, Dr. Sukant, at our Foundation and Dr. Uday Gajiwala, in drafting this write-up)

Endophthalmitis is one of the most dreaded complications of cataract surgery. Its occurrence creates a feeling of guilt, disappointment and embarrassment. Even in the best of setups it has been associated with severe visual loss in 20% of patients. Inspite of the tremendous progress in sterilization procedures, it still occurs.

The reported incidence of post-surgical endophthalmitis in various series is 0.04% - 4%. The incidence of post-operative endophthalmitis in India varies from 1 in 200 to 1 in 1000. The high volume of intraocular surgeries, especially cataract surgery, undertaken worldwide, makes it an important complication.

Post-operative endophthalmitis constitutes a true emergency. Moreover in the current times when cataract surgery has transformed itself from visual rehabilitation to visual enhancement surgery, endophthalmitis is like a bad dream, a nightmare for both patient & doctor.

In developing countries, like India, where still a large backlog of cataract exists, a large number of surgeries are being performed in bulk and a mistake at any step in pre-operative check-up, pre-operative preparation of the patient, sterilization of the operation theatre and the instruments, maintaining strict asepsis during surgery, post-operative care etc. could lead to the most feared complication of cluster (more than one) of endophthalmitis. Here, a particular mention should be made for the compromises our colleagues in private practice make to cut the cost (this is a common practice in places where bulk work is carried out). At times, even location and other requirements of a good theatre are not conformed to, just because a previous construction is converted into an eye hospital. At one place, I have seen a kitchen with an open drainage line being converted into an OT.

The ophthalmic societies and the medical schools should frequently arrange CMEs on sterilization procedures for all and attendance once a year should be made compulsory.

In earlier times, the only known treatment for it was evisceration and hence, a case of endophthalmitis meant loss of the involved eye. The Endophthalmitis Vitrectomy Study (EVS) and many others have thrown a new light on the treatment protocol. With the advent of newer and more potent anti-microbial drugs, along with refinement in microsurgical techniques, we have evolved from times of evisceration to globe salvage and also to restoration of useful vision. The crux of management of endophthalmitis lies in its early detection and adequate and early institution of treatment. Hence, a high level of suspicion is required, especially when risk factors exist.

Apart from the usual risk factors which encourage infection after any interventional procedure, clear corneal incision, a large size incision, PCR etc. are specific to cataract surgery. It is proved beyond doubt that intracameral antibiotic after the surgery has a remarkable preventive effect in the occurrence of endophthalmitis. The mainstay of management of endophthalmitis is in the giving of intra vitreal injection of a combination of antibiotics covering a large spectrum of organisms. Wherever and whenever the response is poor, vitrectomy should be carried out as an emergency procedure. Removal of IOL should be considered when there is a suspicion of fungal infection.

Importance of early initiation of treatment, even on the slightest of suspicion, cannot be overemphasized as time lost in starting the treatment leads to irreversible damage. By adequate treatment, the stress is on the correct choice of antibiotics with proper dosage, and early surgical intervention should never be delayed. With indiscriminate use of antibiotics, the newer problem of drug resistance has emerged and is very difficult to treat; hence, the antibiotics should be appropriately and judicially used.

Other aspects of endophthalmitis which need to be addressed are those of medico-legal and patient counseling. As a doctor, we should understand that endophthalmitis not only takes its toll physically on the patient, but emotionally as well. Hence, the patient should be handled with great care. He should be told that this is a known complication and he should be taken into confidence, the treatment plan should be discussed and a human touch should be given.

However, the old adage – "Prevention is better than cure", applies aptly to the situation. As the world has gone towards quality assurance by following a strict protocol, say, for example, in case of manufacturing, we can do the same by following a standard protocol. There are several protocols available, including some from the developed world. The ophthalmologists in private set ups are generally the first ones to adopt anew technology need to take the lead in setting the highest standards of asepsis in cataract surgical services. Once initiated, we should be able to see a major change in the mindset across the whole country. Things are happening in this direction but we need to speed up the process so that no more news of cluster infection is heard from any corner of the country. I am pretty sure the day will come soon when this will become a reality. In all sincerity, I request each one of you to join hands in following a stricter, standard cataract surgical protocol and ensure that the rate of post-operative infection comes down to levels comparable with the developed world.

QUALITY ASSURANCE IN CATARACT MANAGEMENT:
An INGO's Perspective

Elizabeth Kurian,
CEO, Sightsavers

INTRODUCTION

Blindness has profound human and economic consequences in all societies due to loss of independence, self-esteem and economic productivity[1,2] among those affected and their families. Globally, blindness affects approximately 45 million people,[3,4] two thirds of whom are women.[5] Cataract is the commonest cause of avoidable blindness (19 million) and the second commonest cause of visual impairment after refractive error.

Although cataract cannot be prevented, they can be treated by highly cost-effective surgery which leads to good visual outcomes.[6, 7] Studies have shown that after successful cataract surgery, individuals can return to their previous activities including income generation. Services for cataract, therefore, contribute directly to the achievement of the Millennium Development Goals[8] as well as improving the quality of life.

The vast majority of individuals with visual loss due to cataract, live in developing countries. The disproportionate magnitude of cataract in developing countries is due to the social determinants of health, which are consequences of poverty in its broadest sense i.e. greater exposure to risk factors on one hand and inadequate access to and/or provision and uptake of services on the other.[9,10,11,12]

India has the highest number of blind people in the world. According to national studies, there are 12 million blind people in India and cataract is the main cause of blindness, accounting for around 62% of blindness among people over the age of 50.[13]

QUALITY ASSURANCE

We know from several population-based surveys that a significant number of cataract operations have a poor outcome (defined as presenting visual acuity of less than 6/60). There have recently been outbreaks of endophthalmitis (intraocular infection) in India which have led to considerable loss of sight.[14] There is also evidence from population-based studies that visual outcomes after surgery are not always as good as they could be,[15,16] being particularly poor if surgery is undertaken in surgical camps.[17]

Poor vision after cataract surgery is usually caused by failure to detect pre-existing conditions, inadequate correction of post-operative refractive error or surgical complications. Poor outcomes are distressing for patients and reflect badly on the surgical facility and on the surgical team. They may discourage others from seeking surgery and may also affect the sustainability of services. All these factors support the need for quality assurance for services for cataract.

Role of International Non-Government Organisations (INGOs) in Quality Assurance:

INGOs have been promoting good eye health and the eradication of avoidable blindness in India since the late 1960s, in alignment with the National Programme for the Control of Blindness (NPCB). A lot of their efforts have gone into addressing the cataract backlog in the country, at first in their individual capacity, and more recently through VISION 2020: The Right to Sight India.[*] Quality assurance is a very significant requisite for partnership for these INGOs and quality is now also reflected in the VISION 2020 India plan.

Sightsavers [#] is one of the leading INGOs in the sector. Control of cataract through the provision of high quality services which are scalable, adaptable, cost-effective and responsive to the population remains a priority for Sightsavers. The World Health Organization's health systems framework provides the foundation for the Sightsavers' policy on services for cataract.

Recognizing the critical need for quality assurance in cataract management in India, Sightsavers has made a commitment to work with its partners and professional bodies to ensure that clinical governance systems for cataract are in place and quality and safety standards for consumers and providers are adhered to. One of its first initiatives towards quality assurance was the development of guidelines to promote best practice in cataract management.

The study indicated that the main reasons for poor outcome related to surgery were inadequate asepsis, the paucity of skilled ophthalmologists in remote areas resulting in engagement of part-time ophthalmic surgeons who did not have the time to monitor, and lack of enough attention from the management. It reflected the

importance of strengthening quality assurance in medical education and also the need for policy emphasis on quality in the national programme in India. These findings brought forth the need for a common protocol for cataract management in India. Considering that most cataract work is done by secondary eye centres in the country, the guidelines were developed primarily for such centres, in collaboration with partners and professionals in India.

The guidelines cover the following areas of cataract management:

- Standardisation
- Diagnosis and pre-operative process
- Surgical protocols
- Post-operative protocols
- Sterilization
- Infection control in the operating room
- Monitoring of cataract surgery outcome

The guidelines were appreciated by NPCB and VISION 2020 India. The latter apex organisation has endorsed the guidelines for promotion at the national level. This process also helped raise awareness on quality issues in cataract management and is expected to have a profound impact in raising quality and, therefore, the standard of life of individuals and communities not just in India, but also in other developing countries, in the times to come.

Conclusion

In conclusion, the first responsibility of those engaged in cataract management, whether a service provider, manager or policy maker, is to provide good surgical outcome through quality assurance. Complications are likely to occur despite the best of efforts, so we must ensure that we are fully prepared to deal with these effectively so that consumers can obtain optimal vision. Sound management practices are essential to ensure that patients get the best visual outcome possible. In striving to reach the goals of VISION 2020, INGOs and other professional bodies must promote a culture that values outcome as highly as the number of operations performed.

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*VISION 2020 is the global initiative for the elimination of avoidable blindness, a joint programme of the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) with an international membership of NGOs, professional associations, eye care institutions and corporations. VISION 2020 India is the Indian chapter of the global body. For more information visit www.vision2020.org and www.vision2020india.org

#Sightsavers is an international organisation which works with partners to eliminate avoidable blindness and promote equality of opportunity for disabled people in the developing world. For more information visit www.sightsavers.org