Survey of Cataract Surgical Techniques in Nigeria

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SUMMARY

Objective: To determine the techniques of cataract surgery as currently being practiced by ophthalmologists in Nigeria.

Materials and Methods: A self-administered questionnaire was administered to practicing ophthalmologists in Nigeria, selected by simple random sampling. Information sought included the type of cataract surgery performed and how often performed; the type of IOL (if any) used; mode of after-surgery care; and availability of biometry and YAG laser facilities.

Results: Of the 90 ophthalmologists selected, 84 returned the questionnaire, giving 93.3% response rate. All the ophthalmologists perform cataract surgery. The more frequently employed techniques were the ECCE/IOL (73.8%) and SICS/IOL (29.8%); 2.4% occasionally perform phacoemulsification, while 26.2% occasionally perform intracapsular cataract extraction without intraocular lens implant. Ambulatory (day case) surgery was practiced by 20.2%. The PMMA lenses were most commonly used IOL (94.1%). Only 47.6% of the ophthalmologists have access to ocular biometry and YAG laser was available only to 10.7%.

Conclusions: This survey suggests that the most popular cataract surgery technique in Nigeria at present is the wide incision ECCE/IOL and facilities for biometry and Nd:YAG laser are not commonly available. It is recommended that ophthalmologists in Nigeria upgrade both surgical techniques and instrumentation for better post-operative visual outcome for cataract patients.

Key words: cataract, surgical techniques, Nigeria

INTRODUCTION

Cataract is the commonest cause of blindness in Nigeria accounting for nearly 50% of all cases of blindness in persons aged 40 years and above.1 At present, the confident method of restoring sight to a cataract blind eye is surgery. Many surgical techniques, all aimed at improving visual outcome, have been invented for treating cataract. The techniques have evolved from the ancient method of couching through intracapsular cataract extraction (ICCE) to various forms of extracapsular surgery.2 The techniques currently in vogue in various parts of the world include phacoemulsification,3 manual small incision sutureless cataract surgery (SICS),4 and wide incision extracapsular cataract extraction (ECCE).5 With any of the modern methods of cataract surgery, vision is best rehabilitated with the implantation of the intraocular lens (IOL).6,7 However, in spite of their usefulness, these modern surgical techniques, for various reasons, are not uniformly practiced throughout the world.

The aim of the present study is to describe the cataract surgical techniques as currently practiced by ophthalmologists in Nigeria.

MATERIALS AND METHODS

A self-administered questionnaire was sent to ophthalmologists, selected by simple random sampling, from all parts of Nigeria in September 2008. Information sought included the type of cataract surgery performed and how often performed; the type of IOL (if any) used; mode of after-surgery care (ambulatory [day case] or in-patient care); and availability of biometry and YAG laser facilities.

RESULTS

Of the 90 ophthalmologists to whom the questionnaire was sent, 84 responded. This gave a response rate of 93.3%. All the ophthalmologists perform cataract surgery. Table 1 shows the surgical techniques often used (at least 90% of the time) by the ophthalmologists. Some ophthalmologists frequently employ more than one technique.

No ophthalmologist performs phacoemulsification frequently though 2 (2.4%) ophthalmologists occasionally (<10% of the time) employ the technique. Also 22 (26.2%) ophthalmologists occasionally perform intracapsular cataract extraction without intraocular lens implant. Ambulatory (day case) surgery was practiced by 17 (20.2%) ophthalmologists.

Table 2 shows the availability of facilities that enable enhancement of visual rehabilitation post-cataract surgery. While PMMA lenses are most commonly used, only 47.6% of the ophthalmologists have access to ocular biometry.

Table 1. Common cataract surgical techniques

| Surgical technique | No. | % |
|--------------------|-----|---|
| ECCE/IOL           | 62  | 73.8 |
| SICS/IOL           | 25  | 29.8 |
| ECCE               | 8   | 9.2 |
| ICCE/IOL           | 2   | 2.4 |

*Percentage based on 84 respondents.

**ECCE = extracapsular cataract extraction; ICCE = intracapsular cataract extraction; SICS = manual small incision sutureless cataract surgery; IOL = intraocular lens

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that a growing number of cataract patients now specifically request
deficiency in the requisite skills. Anecdotal reports however indicate
include the high cost of equipment and consumables as well as
performing the surgery less than 10% of the time. Reasons for this
involved in phacoemulsification, manual small incision sutureless
Phacoemulsification and SICS. This survey shows that the former is
intraocular lens are the different methods of visual rehabilitation after
lens implant. Aphakic spectacles, contact lens, refractive surgery and
in Nigeria perform cataract surgery with wide incision extracapsular
by reports of initial experience from various parts of Nigeria.6,7
These early reports from Nigeria show that ophthalmologists all
employed the wide incision ECCE/IOL technique. This contrasts with the
practice in industrialized countries which favour the high
technology automated small incision phacoemulsification technique.8
The introduction of intraocular lens implant surgery in Nigeria
necessitated a re-training of ophthalmologists in the technique.9
To benefit from the advantages of small incision sutureless
surgery without being burdened by the high cost of technology
involved in phacoemulsification, manual small incision sutureless
cataract surgery with intraocular lens implant (SICS/IOL) was
developed in Asia10 and is currently being popularized throughout the
world. Courses are available in different parts of Nigeria to train
ophthalmologists in this new technique.
Although expectedly ECCE/IOL is, at present, the most
popular technique of cataract surgery, it is equally gratifying to
observe from this survey that an increasing number of
ophthalmologists in Nigeria are also frequently performing the
SICS/IOL. A study in Jos, Nigeria, showed that this technique is
safe, has good visual outcome, and is associated with minimal
complications in our environment.10
On the other hand, it is not encouraging that nearly 10% of the
ophthalmologists surveyed still frequently perform extracapsular
cataract surgery without visual rehabilitation with the intraocular
lens, while some others (26.2%) perform ICCE without intraocular
lens implant. Aphakic spectacles, contact lens, refractive surgery and
intraocular lens are the different methods of visual rehabilitation after
cataract surgery. The superiority of the intraocular lens over the
other methods has been well established,11,12 and every ophthalmic
surgeon should take advantage of this when operating on the cataract
patient.
The vogue in cataract surgery techniques globally are
phacoemulsification and SICS. This survey shows that the former is
scarcely practiced in Nigeria, with 2.4% of the ophthalmologists
performing the surgery less than 10% of the time. Reasons for this
include the high cost of equipment and consumables as well as
deficiency in the requisite skills. Anecdotal reports however indicate
that a growing number of cataract patients now specifically request
to be treated using the phacoemulsification technique. About a
decade ago ophthalmologists in Nigeria willingly and enthusiastically
re-trained and effectively converted from performing extracapsular
cataract surgery to routinely performing the ECCE/IOL surgical
technique. Such positive attitude should also be adopted in re-
training for phacoemulsification and other associated modern
methods of lens surgery. Such a re-training will no doubt enhance
our blindness prevention efforts and ensure maximal visual benefit to
the cataract blind in Nigeria. To avoid fossilization, ophthalmologists
in Nigeria, of necessity, need to move with the times and trend.
In this survey, only 47.6% use biomere while only 10.7% have
facility for YAG laser capsulotomy. Biometry and Nd: YAG laser are
adjunctive facilities that help ensure the maximization of visual results
after cataract surgery. Ocular biomere helps with the calculation of
the intraocular lens power. Implanting an intraocular lens of
inappropriate power is one of the causes of poor visual outcome in
an otherwise well performed cataract surgery.11 Nd:YAG laser
capsulotomy restores vision in a situation of posterior capsular
opacification. Posterior capsule opacification has been documented
as one of the commonest post-operative complications of ECCE/IOL
surgery in Nigeria.12 While it may be difficult and even economically
unprofitable for every practitioner to have these ancillary facilities, it
is recommended that ophthalmologists should avail their patients the
opportunity of benefitting from these facilities by referring them to
healthcare institutions where they are available.
Day case cataract surgery is also not yet popular. It is currently
being practiced by only 20.2% of the ophthalmologists in this survey.
Improvement and refinement in cataract surgery techniques, patient
health education on cataract surgery after-care as well as the need
for cost containment have popularized day case surgery in developed
countries.12 Cost savings and other benefits that may accrue from
day case cataract surgery in Nigeria deserve further detailed study.
In conclusion, this survey suggests that the most popular
cataract surgery technique in Nigeria at present is the wide incision
ECCE/IOL. While an increasing number of ophthalmologists are
performing SICS/IOL, only 2.4% perform phacoemulsification.
However, equipment for biometry and Nd:YAG laser are not commonly
available. It is therefore recommended that ophthalmologists in Nigeria upgrade both surgical techniques
and instrumentation for better post-operative visual outcome.

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Table 2. Adjunctive facilities available

| Facility** | No. | %  |
|-----------|-----|----|
| Biometry  | 40  | 47.6 |
| Nd:YAG laser | 9 | 10.7 |
| PMMA lens | 79  | 94.1 |
| Foldable lens | 5 | 6.0 |

*Percentage based on 84 respondents
**Nd:YAG = neodymium yttrium aluminium garnet; PMMA - polymethylmethacrylate
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