Cataract Surgery: A Nepalese Perspective

Sanduk Ruit
Tilganga Institute of Ophthalmology, Kathmandu, Nepal

Globally, cataract continues to be the leading cause of blindness. Ninety four million of the total population are suffering from moderate to severe visual impairment due to cataract. Out of these, 20 million are categorized as blind. It is assumed that, about five million new cases of cataract blindness adds on each year. Majority of the cataract blindness are found in developing countries.

Nepal Blindness Survey of 1981 was a very scientific multidisciplinary survey that determined the magnitude and distribution of blindness in Nepal. This survey was conducted under the auspices of the Ministry of Health of Nepal and the WHO program of prevention and control of blindness. According to this survey, the prevalence of blindness was 0.84% and out of this, 80% of it was avoidable blindness. Cataract and sequelae were responsible for 83.6% of the avoidable blindness. Fifty six percent of the operated cases were found to be functionally blind as they had lost or were not wearing the aphakic glasses. Seventeen percent of these operated cases were found to be irreversibly blind. 1/3 of the aphakic population operated in neighboring countries.

In an attempt to improve the quality of cataract surgery, it's affordability and accessibility to the community, there were some barriers. These barriers were meticulously studied. The most important barriers were a lack of simple locally applicable surgical technique, affordable intraocular lenses, medical consumables including sutures and equipment like operating microscopes.

Nepal pioneered the evolution of extra capsular cataract extraction (ECCE/ IOL) with lens implantation that can be used at the community level. This surgical technique, appropriate medical consumables, and portable microscopes, were set aside as a part of the standard operating procedure. This surgical technique and the long-term results were published and the results

Corresponding Author
Dr. Sanduk Ruit
Tilganga Institute of Ophthalmology,
Tilganga, Kathmandu, Nepal.
E-mail: sruit@tilganga.org

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were comparable to the standard western data in 1990.

In the early 1990s, the cataract surgical rate of Nepal was less than 800. The advocacy and training of ECCE/IOL were disseminated in other parts of Nepal. The challenges confronted with the lack of technology and resources continued. Attempts to self-sealing small incision cataract surgery (SICS) were already on the way to overcome such lacunae. In the late 90s, SICS was already being part of the cataract surgery in many parts of Nepal. The establishment of precision-manufactured high quality intraocular lenses in Tilganga started in 1994. In the early 2000s, surgical quality and volume surged in Nepal due to the work done in Lahan, Lumbini, Geta, Tilganga, etc.

At present, cataract surgery has become very simple, straightforward and predictable. However, cataract surgery in the community is challenging, which requires application and integration of the surgical technique into a surgical delivery system. This involves a very qualified and motivated support team, well polished production line approach and a good inventory with management system. Nepal takes pride in having a very professional cataract surgical delivery system distributed in all the parts of the country. Institution of cost recovery scheme on a sliding price structure addresses the financial sustainability.

The proportion of patients now receiving phacoemulsification surgery is increasing. However, good quality SICS still remains the backbone of cataract surgery. All of us have seen a reverse exodus of patients from neighboring countries to Nepal especially in the last two decades. This implies the strength in the quality, simplicity, affordability and excellent results of our cataract surgery. The Nepalese cataract surgical delivery system needs to be scaled up to many parts of the world where it will be able to make a huge difference in people's lives. The fact that younger ophthalmologists get training in both SICS and phacoemulsification prove to be versatile in many parts of the world.

My suggestion to the younger colleagues, please keep your heart and mind open and do not hesitate to think out of the box. Reducing intervention, improving and easing nucleus fragmentation should be attempted. Some may have ideas to find chemical dissolution of the nucleus. These are some crazy ideas that may be worth pondering upon sometimes. However, cataract surgery will continue to evolve for the better. In the times to come, the younger generation should not ignore the application of artificial intelligence and database algorithms.

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