



Megbelayin Irrigating Tubing System (MITS) for Continuous Intraocular Irrigation

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Abstract

Background: The panacea to scarce financial, material and skilled human resources, especially in underserved parts of the world, would be ingenuity that harnesses available human and material potentials.

Objective: To describe a lengthening technique for irrigating tubing used for continuous intraocular irrigation.

Methods: Literature and internet search for relevant information on the subject of ophthalmic innovations and ideas.

Results: Megbelayin Irrigating Tubing System (MITS) is useful in vitreoretinal and anterior segment procedures where spacious surgical fields are the ultimate goals.

Conclusion: MITS is a reusable, cost-effective and efficient irrigating unit.

Key words: MITS, Megbelayin, Irrigating, Tubing

Introduction

The bane of effective delivery of health care in underserved parts of the world is non-availability of human and material resources. It is a two-pronged tragedy. Where human resources are availability, dearth of material resources prevails and vice versa. Medical tourism has had depleting consequences on the meager resources and foreign exchange earnings of these countries. In Nigeria, Ophthalmologists obtain Fellowships abroad through sponsorships by International Congress of Ophthalmologists (ICO), Commonwealth Eye Health Consortium (CHEC) and sundry other Non-governmental organizations (NGOs). Few other Ophthalmologists are self-sponsored to such foreign sub-specialist training in Retina, Cornea, Paediatric Ophthalmology, Oculoplastic, Glaucoma et cetera. Sadly, on return from training, they grapple with the harsh economic

realities of inability to acquire needed materials to practice the knowledge acquired mostly from prohibitive costs of medical or surgical equipment. A viable next-door panacea to dearth of material resources is to look in-wards in adapting readily available materials to solving common problems as being promoted in appropriate technology strategy by World Health Organization (WHO)¹. This write-up is a modest effort to solve a personal challenge which may also be encountered by other ophthalmic surgeons. It is hoped that this discovery would bring the much-needed intra-operative succor during ophthalmic procedures that demand delivery of continuous fluid to anterior or posterior segment of the eye.

MITS (Megbelayin Irrigating Tubing System) design

MITS (Megbelayin Irrigating Tubing System) is fashioned from a suitable plastic tubing of appropriate luminal diameter. Conventional fluid irrigating tubing could be used although the luminal diameter is large. A vitrector tubing (with vitrector unusable from repeated use) provides appropriate

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luminal size. The desired length is cut out and the terminals are fixed with appropriate male and female commercially available adaptors. Figure 1 shows commercially available vitreo-retinal irrigating tubing with a green female adaptor. It is about 27cm. MITS, on the other hand, is over 50cm. It could be made longer based on surgeon's preference. Figure 2 shows MITS with blue adaptors at its ends. Figure 3 shows MITS with its female adaptor connected to a yellow three-way connector on one end and its male adaptor connected to a cut 23G needle. This cut 23G needle is the author's innovative technique that delivers continuous fluid into the vitreous cavity through a preplaced MATS (Megbelayin Affordable Trocar System) cannula. MATS is being reviewed for publication by another journal.



Figure 2: MITS with blue male and female adaptors at the ends



Figure 1: Commercially Available Irrigating System with a green female adaptor



Figure 3: MITS connected to a 3-way connector (Yellow) and a cut 23G needle suitable for MATS cannula

Discussion

Necessity would continue to birth innovative ideas. Such innovative notions have been published by several authors in ophthalmic literature. Glued intraocular lens was popularized by Kumar et al,² phaconit was described by Agarwal et al,³ darktom theory was propounded by Megbelayin,⁴ and a fourth refractive error called Aberropia was opined

by Amar Agarwal et al.⁵ MITS is one of such innovations born out of the dire need to improve surgical efficiency by creating a free operating site not encumbered with convoluted tubing. The versatility of MITS could be employed for continuous anterior chamber irrigation in anterior segment surgeries. What is required is to change the

male adaptor to an anterior chamber male stepped adaptor that cannot easily pull out. In rare instances where regular fluid giving set is not long enough to reach point of use, MITS could be used by connecting relevant adaptors.

It is therefore concluded that MITS, and products that could arise using its basic principle, ease ophthalmic surgical procedures and obviates dragging of tubing which is often the case in commercially available varieties because they are merely 27cm long. MITS also minimizes pull-out of irrigating tubing while vitreoretinal procedures are on-going because the sheer length relieves tugging.

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