

Man vs machine – The future of manual small-incision cataract surgery

“For God’s sake, let us be men not monkeys minding machines” - D.H. Lawrence

Cataract surgery is one of the oldest medical interventions, documented as early as the fifth century BC.^[1] It has evolved through several stages - from couching, needling, intracapsular extraction, and extracapsular extraction to modern phacoemulsification, manual small-incision cataract surgery (MSICS), and femtosecond-laser assisted cataract surgery.^[1] The progress is fueled by the fast-paced momentum of innovations in surgical techniques, instrumentation, biometry, and intraocular lens design. Refinements in cataract surgery have transformed it into a remarkably rewarding, quick, predictable, safe, and effective surgery. Cataract surgery is currently one of the most common surgeries performed worldwide.^[2,3]

Most of the refinements in phacoemulsification are technology-driven, with a large commercial angle. While phacoemulsification is considered the standard of care for cataract surgery in the West, MSICS has evolved as a logical alternative in the resource-starved developing world. Both procedures are comparable in terms of safety and efficacy, but MSICS does seem to score over phacoemulsification as far as surgical time, cost-effectiveness, and environmental impact (carbon footprint) are considered.^[4-6] MSICS is unarguably the most performed surgical procedure in ophthalmology. Although data from the Aravind Eye Care system showed an increasing trend in phacoemulsification in 2018 as compared to the baseline in 2012, almost two-thirds of patients still underwent MSICS.^[7]

Learn, Evolve, and Teach

With a deeper understanding of wound construction and refinements in the surgical steps, the outcome of MSICS has shown an improving trend.^[7] The International Society of Manual Small-Incision Cataract Surgeons (ISMSICS) is spreading its wings across India and the world and is robustly advocating that the MSICS surgeons teach, learn and adapt the state-of-the-art refinements in MSICS. It is important to make supervised structured training of MSICS an integral part of every ophthalmology residency curriculum. Every resident must master MSICS skills before training in phacoemulsification. India should lead the way in teaching MSICS to the world.

Over 90% of cataract surgery-related publications pertain directly or indirectly to phacoemulsification. Despite being the most common cataract surgical procedure, the academic importance given to MSICS is grossly suboptimal, gauged by the relatively minuscule number of publications in major ophthalmology journals. Indian Journal of Ophthalmology (IJO) published its first MSICS special issue in Jan-Feb 2013^[8]; however, original research articles on MSICS were very few

then. The November 2022 issue of IJO is dedicated to MSICS and carries well-researched review articles, numerous original research articles, and surgical techniques covering the entire gamut of MSICS. It is heartening to note that many of the authors are from small cities and rural hospitals and have shared their MSICS experience for the first time in an academic setting. Their keen interest in MSICS and their genuine enthusiasm to learn and teach is palpable.

From Monism to Pragmatic Pluralism

Prescription of a preferred surgery should not be a market-driven enterprise of establishing a monopolistic determinate behavior but should be a collective medico-social undertaking to determine how best to resolve the issue of enormous cataract-related blindness in the overarching context of practicality, economic and logistic feasibility, and sustainability. It would be best to live and let live – phacoemulsification for those who can invest in the technology and those who can afford it, and MSICS for everyone else, with a clear understanding that there are specific advantages of each of these surgeries over the other in certain clinical situations. MSICS and phacoemulsification are complementary to each other, both should peacefully co-exist and continue to evolve, and one not at the cost of the other.

“If we open a quarrel between past and present, we shall find that we have lost the future.” - Winston Churchill

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