

March of Time

Innovations in Cataract removal methods have been and are an ongoing process all along.

Transitions from couching to intracapsular, extracapsular, IOL transplantation and somewhat recently to Phacoemulsification were undertaken with traditional anxiety and reluctance because of the realization that progress is inevitable and while remaining static would mean becoming decades behind the progressing world. As a matter of fact if one has *not* changed his surgical technique in the last three to four years he is already left behind one generation, likely to be labeled as outdated and under a serious threat of getting out of business.

Once convinced of the benefits of Phacoemulsification and having crossed the hurdle of learning curve we soon became comfortable and confident with this technique passing on the benefits of Phacoemulsification to our patients who are now lot more happy, satisfied and unsacred of undergoing cataract surgery.

We kept on improving our techniques every now and then from divide and conquer to chopping with lesser use of ultrasonic power aided by pulse, burst and now micro pulse, micro burst modes, along with availability of better machines providing safer fluidic controls etc.

The main advantage of Phaco over ECCE was smaller incision with more secure wound, less induced astigmatism with fewer post operative complications particularly the dreaded post operative endophthalmitis.

6.5mm Phaco incision size required for rigid IOL was soon reduced to 3.2 mm with the availability of foldable lenses and in this technique the Phaco tip had an irrigation sleeve over it hence called co-axial Phaco emulsification. Further reduction in incision size to less than 2mm required irrigation through chopping instrument while the

Phaco tip was used without a sleeve to negotiate through very small incision and hence called bimanual or non co-axial technique and through this small incision thin rollable lenses could be inserted with all the advantages of micro incision surgery (Phaconit or micro incisions surgery).

With the availability of even thinner rollable IOL, there is further tendency towards even smaller incision (micro incisions about 1.5 mm and even recently about 700 micron micro phaconit) using the bimanual or non co-axial technique. Despite these enthusiastic recommendations of micro incision and bimanual technique the dilemmas with it are no less trivial due to inherent problems of wound leakage around the sleeveless tip, insufficient infusion through chopper with more chances of chamber instability, instances of wound burn and chattering of lens pieces, with resultant sub optimal operative outcomes.

Hence a newer thinking is developing with the recommendations of constructing micro incision (sub 2 mm even upto 1.5 mm similar to bimanual technique) but with micro coaxial system using finer tips with thinner and narrow bore sleeves retaining the benefits of coaxial system along with micro incisions providing better fluidic control, securer wounds, practically astigmatism neutral, with lesser incidence of post operative complications retaining the possibility of using thin reliable IOLs with already proven stable and predictable optical qualities or choice of implanting newer thinner foldable lenses.

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