A comparative study proves the higher efficacy and safety of *easy*Phaco

Study performed by Dr Sabine Schriefl, Dr Eva Stifter and Prof. Rupert Menapace, Department of Ophthalmology, Vienna, Austria

A recent prospective, randomized, single-masked study including a within-patient comparison has revealed that the easyTip 2.2 mm phaco tip in co-axial MICS uses 30% less energy than the 20G CMP tip during cataract surgery. According to Dr Sabine Schriefl (Department of Ophthalmology, Waehringer Guertel, Vienna, Austria), downsizing incisions has been a driving force of the evolution of cataract surgery in recent years. Dr Schriefl and colleagues, Dr Eva Stifter and Prof. Rupert Menapace, performed a comparative study to determine the intraoperative efficacy and postoperative outcomes of two different phacoemulsification tips, the easyTip 2.2 mm and the 20G CMP tip (both from Oertli Instrumente AG, Berneck, Switzerland).

Comparing phaco tips

The prospective, randomized, single-masked study consisted of 114 eyes of 57 patients. Dr Schriefl explained that preoperative examinations were performed 1-week before surgery. "One week before surgery, we graded all cataracts (i.e., both groups) using the Lens Opacities Classification System (LOCS) III and we measured endothelial cell density by non-contact specular microscope," she said. To maintain integrity in the study a single surgeon performed all the operations. Dr Schriefl added, "The surgeon operated on each patient in a single session where one eye was randomly assigned to undergo phacoemulsification with the 20G CMP (group 1) and the fellow eye with the easyTip 2.2 mm (group 2). Group 1 were operated on with low fluidic setting (aspiration flow: 20 mL/min; vacuum: 400 mmHg) while group 2 were operated on with enhanced fluidic settings (aspiration flow: 35 mL/min, vacuum: 500 mmHg)." She went on to explain that efficacy was measured in terms of surgery time (to divide and conquer the nucleus of the lens), the amount of phaco energy consumed and the fluid consumption. "The safety of each phaco tip," she continued, "was judged in terms of visual acuity (VA) and endothelial cell loss." The follow up periods for visual outcome and endothelial cell loss were 1-week and 18-months post-op. Complete analysis was made postoperatively at the end of the study.

Differences in the phaco tips

In their preoperative analysis Dr Schriefl and colleagues found that there was no statistically significant difference in the mean cataract grade. With regards to the phaco tips, Dr Schriefl revealed, "When using the easyTip 2.2 mm the overall phaco energy consumption was reduced by 30% while overall fluid consumption was only 12% higher compared with the CMP 20G." She added, "Sadly, we observed no difference in surgery time but with the easyTip 2.2 mm the effective phacoemulsification time was reduced."

Additionally, Dr Schriefl and colleagues found that with the easyTip 2.2 mm the amount of energy required to conquer the nucleus of the lens was also significantly lower than that of the CMP 20G tip. This added to the fact that the effective time taken to perform the phacoemulsification was lower, led the team to conclude that the easyTip 2.2 mm phaco tip was more efficacious than the CMP 20G. All surgeries were uneventful. Both options gave similar safety profiles after analysis of the postoperative visual outcomes and the level of endothelial cell loss.

Conclusions

"At the final follow up, one and a half years post-op, we found no significant difference in the VA or endothelial cell loss," said Dr Schriefl. "So, the phaco efficiency increased and overall energy consumption was 30% less with the easyTip 2.2 mm. Also, despite the increased fluid consumption there was no increase in endothelial cell loss, indicating that the enhanced fluidic settings did not augment tissue damage. Currently, there is a study underway to determine efficiency and safety of even higher fluidics," concluded Dr Schriefl.

- easyTip 2.2 mm has a lower overall energy consumption, especially when conquering the nucleus.
- easyTip 2.2 mm reduces the emulsification time.
- easyTip 2.2 mm with its high fluidic settings, has no affect on tissue damage.

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