New phaco system delivers promising early results

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in Paris

THE Stellaris Vision Enhancement System (Bausch & Lomb) offers enhanced performance, control, and versatility in cataract removal and refractive surgery, according to Christophe Rakotondrainy MD.

Speaking at the annual meeting of the French Implant and Refractive Surgery Association (SAFIR), Dr Rakotondrainy, in private practice in Thiais, Paris said that the Stellaris platform provides a smooth transition to 1.8mm bimanual or coaxial microincision cataract surgery. “Our study showed a short learning curve for surgeons who have never used this technology before. The surgical technique was comfortable, familiar and intuitive for our team of surgeons. The enhanced fluidics of the system allows for greater levels of vacuum, enhanced anterior chamber stability and reduced use of ultrasound energy. It is a definite improvement over traditional methods of lens extraction,” he said.

Dr Rakotondrainy explained that the new system employs advanced fluidics technology that allows surgeons to choose a combination of flow and vacuum modes or an advanced vacuum mode. “The fluidics help to maintain excellent anterior chamber stability and we observed greater holding power at the tip end with less repulsion of the nuclear fragments than with traditional phaco,” he said.

Dr Rakotondrainy presented the results of the first 105 patients treated with Stellaris at two different centres. All patients were given topical anaesthesia, followed by a corneal incision of 1.8mm and phacoemulsification using Stellaris with a micro coaxial technique. Different implants used included the Akreos M160 (Bausch & Lomb), AcryLiza (Acri.Tec) and Crystalens (Bausch & Lomb).

Subjective evaluation showed that surgeons estimated that they had become comfortable with the technique and the equipment after an average of three to five procedures, noted Dr Rakotondrainy. “There are no real problems in terms of mastering the surgical technique with Stellaris. It is important, however, to stress the need for a rigorous approach in making the incision. There may also be some initial difficulty with the counter-traction technique needed to implant the IOL through the 1.8mm incision, but otherwise the transition is pretty straightforward,” he said.

The visual acuity outcomes for uncorrected and best-corrected vision were excellent, said Dr Rakotondrainy. “The corneas were crystal clear immediately after surgery and visual rehabilitation was very quick for these patients. One of the clear advantages of using Stellaris is that we can systematically create incisions of 1.8mm and there is no need at any stage of the procedure to enlarge the incision before implantation. At the end of the surgery, the incisions were completely watertight with or without stromal hydration and there was no incidence of corneal burn in this series,” he said.

In terms of complications, investigators reported one capsule rupture, which occurred just before the removal of the last nuclear fragments. “Despite this, the procedure was completed without further problems. We finished the phacoemulsification through the 1.8mm incision, and then performed an anterior vitrectomy following by implantation of the IOL in the sulcus after the incision had been enlarged to 2.8mm. This patient was very happy with his final visual outcome,” he said.

The average ultrasound power used was 13.3 per cent, with an average ultrasound time of 62.37 seconds and an average continuous ultrasound time of 8.78 seconds, said Dr Rakotondrainy.

The benefits of the Stellaris system were also lauded in a separate study presented by Danielle Deidier MD, Clinique St. Vincent, Toulon. “We have been using a bimanual approach with Stellaris and implantation through 1.7mm incisions with Akreos AO M160 implants (B&L) or Microslim (PhysioL) since October 2007 and the initial results have been very encouraging,” she said.

Dr Deidier’s prospective study included 150 eyes treated by the same surgeon using a bimanual technique of two 1.3mm incisions, which were then enlarged to 1.7mm for implantation of the IOL. Dr Deidier said that the Stellaris offers several clear advantages over previous phaco systems. “The ergonomics are better, with an intuitive interface and a new wireless foot pedal control. There is also enhanced safety through the reduced use of ultrasound energy with less risk of thermal burn. There is also greater reactivity at the tip end with less repulsion, improved fluidics and excellent anterior chamber stability,” she said.

Overall, Dr Deidier reported an average time for continuous ultrasound power of 7.27 seconds and a mean volume of fluid of 41.39ml.

“Essentially, this means less ultrasound energy and a diminution of liquid being delivered into the eye and subsequently a reduction in anterior chamber turbulence. The visual acuity results were very good and endothelial cell loss was about one per cent during the follow-up period,” she said.

Complications were minor, reported Dr Deidier, including two micro-tears of Descemet’s membrane and one mini-capsular tear, which still allowed implantation of the IOL into the capsular bag.

She echoed Dr Rakotondrainy’s assessment of the first-rate quality of the incisions using the Stellaris platform. “These incisions were completely watertight at day one postoperatively, with no leakage according to Seidel Test. Subjectively, we also observed an improvement in the quality of incisions over the follow-up period and there was very little inflammation and rapid visual rehabilitation for our patients,” she concluded.

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courtesy of Danielle Deidier MD

courtesy of Dermot McGrath