

Saturday, September 18, 2010

3-D ophthalmic surgery debuts in Asia

by Matt Young
EyeWorld Contributing Editor

Ophthalmologists in Beijing on Friday witnessed something they probably never saw before: 3-D video surgery.

During the ASCRS-sponsored symposium at the 25th APAO Congress, **David F. Chang, M.D.**, in private practice, Los Altos, Calif., packed lecture halls full of people wearing 3-D glasses, awaiting his surgical presentation titled, "The challenge of weak zonules."

Earlier in the day, Dr. Chang told EyeWorld, "We finally got the 3-D equipment out of customs yes-

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Opening ceremony kicks off with traditional Chinese music amid a fantastic audience reaction



Ophthalmologists watch in 3-D delight

terday, and when I show a 3-D case in my keynote lecture, this will be the first-ever demonstration of 3-D teaching in Asia."

Dr. Chang delivered on that promise shortly after noon on Friday, and the presentation certainly was unique in its three-dimensional effects.

Prior to his presentation, **Roger F. Steinert, M.D.**, University of California-Irvine, Calif., presented Dr. Chang with a plaque for delivering this APAO Special Lecture.

Apart from the buzz

surrounding the presentation, Dr. Chang also made some important points related to the use of capsular tension rings (CTRs).

He outlined a case in which a CTR was implanted, and then Dr. Chang realized there were very few zonules available.

Dr. Chang reminded the audience that a CTR works by redistributing the forces of surgery to all of the zonules available in a surgical case.

But in this case, the patient had only 6 clock hours of zonules available – far too few for the CTR to be effective, he said.

"I'm moving the entire bag, thanks to the CTR," Dr. Chang said at one point. Three to four clock hours of zonular weakness would have been ok, but 6 clock hours definitely was not, he said.

"I can't get the cortex out," he said.

To successfully manage this case, Dr. Chang used a capsule retractor, which he said anchored the bag rather than redistribute forces to the rest of the zonules, and he was able to get the cortex out.

Spotlight on TASS

Another tough issue – but one that needs to be understood – is that of toxic anterior segment syndrome (TASS).

TASS can occur in anterior segment surgery of any kind, said **Liliana Werner, M.D., Ph.D.**, John A. Moran Eye Center, University of Utah, Utah, who also spoke at the ASCRS-sponsored symposium in Beijing.

The inflammatory process starts within 24 hours after surgery, she said. Hallmarks of TASS include diffuse corneal edema limbus to limbus and widespread endothelial damage.

There are many, many known causes of TASS, and these include instrument contamination, the use of detergents at the wrong concentration (and other surgical mistakes), glove powders, and others.

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Project Vision seeking to provide sustainable cataract surgery in China

BEIJING – A new outreach program is working to establish 100 charity eye centers in China by 2013, based on a model of manual sutureless medium incision cataract surgery that allows for sustainable care by local physicians.

The program, Project Vision, has established 19 centers in five provinces in

China, **Dennis S.C. Lam, MD**, said. It has provided more than 50,000 surgeries to date by more than 50 trained surgeons. Dr. Lam, who founded Project Vision, spoke about the program in a special lecture during the Opening Ceremony of



Dennis S.C. Lam

the 25th APAO Congress.

He said sustainable cataract surgery is important in rural areas of China because the majority of the population lives in villages and towns. However, 80%

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Cataract program emphasizes complications management

BEIJING – Key cataract and IOL topics will be addressed at the 25th APAO Congress during 12 separate symposia and six invited instruction courses.

The instruction level will range from basic courses on learning phacoemulsification or transitioning to refractive IOLs, to advanced courses and symposia on phaco chop, pars plana anterior vitrectomy and the latest MICS techniques, said **David F. Chang, MD**, Convener for the Cataract Subspecialty Scientific Program.

“There is a heavy emphasis on complications management, including separate symposia devoted to surgical complications, to IOL complications, to endophthalmitis and to complicated cases,” he said.

Importing popular formats

This year’s cataract program offers some of the popular educational formats seen at the American Academy of Ophthalmology and American Society of Cataract and Refractive Surgery meetings, including rapid fire presentations and interactive video complication sessions.

“Both the audience and a panel of experts will have to make clinical decisions regarding the management of cataract complications presented by video,” Dr. Chang said of the symposia he and Amar Agarwal, MS, FRCS, FRCOphth, will chair.

The 25th APAO Congress will also be the first Asian ophthalmology meeting to feature 3-D video presentations using TrueVision Systems’ stereo projection system, said Dr. Chang.

“As I have done at both AAO and ASCRS, I will be using 3-D video to teach phaco chop, and we will use it in several of the complication sessions,” he said.

Hot topics in cataract

Achieving emmetropia and new IOL technologies from around the world are among the notable topics concerning cataract that are covered at the meeting. Refractive IOLs, a hot topic worldwide, was discussed Friday during a 3-hour symposium, “Refractive Cataract Surgery – The New Paradigm.” This symposium, which was jointly sponsored by the cataract and refractive program committees, featured 24 international experts.

On Saturday, attendees can attend a symposium featuring the most prominent global leaders in the

field of manual, sutureless, small-incision extracapsular cataract extraction (ECCE), including Geoff Tabin, MD; Sanduk Ruit, MD; Dennis S. C. Lam, MD, FRCOphth; and R. D. Ravindran, MD.



David F. Chang

“This will be of particular interest to the many Asian surgeons who deal with advanced cataracts in underprivileged populations,” Dr. Chang said, adding that a companion instruction course will be offered for surgeons who are interested in learning the technique.

Distinguished faculty

The program in Beijing offers attendees the opportunity to learn from internationally distinguished faculty.

As I have done at both AAO and ASCRS, I will be using 3-D video to teach phaco chop, and we will use it in several of the complication sessions.

— David F. Chang, MD

“As a special feature, I have invited the three global sister cataract societies – American Society of Cataract and Refractive Surgery, European Society of Cataract and Refractive Surgeons and Asia-Pacific Association of Cataract and Refractive Surgeons – to each organize a symposium relating to cataract complications,” Dr. Chang said.

The international APAO Congress cataract faculty includes Americans Ralph Chu, MD; Warren E. Hill, MD, FACS; Bonnie A.

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HEALTHCARE

Project Vision: full speed ahead

by David F. Chang M.D.



Drs. Lam and Chang observing surgery at a rural Project Vision charity eye hospital

It is well known among ophthalmologists that cataracts are the leading cause of blindness in the developing world. Professor Dennis S. C. Lam, chairman of the Chinese University in Hong Kong's Department of Ophthalmology, founded Project Vision to address this daunting challenge in China. Project Vision uses the existing county hospital infrastructure to create rural charity eye centers. Local ophthalmologists are trained in manual, sutureless, modified small incision ECCE, and provided with the necessary diagnostic and surgical equipment. One floor of a local county hospital is then transformed into an eye clinic with an adjoining operating room. Successful pilot projects in Southern China have demonstrated that such newly trained cataract surgeons are able to perform high volume, manual, sutureless ECCE with excellent outcomes. The reduced surgical fee is affordable to low income patients, but with sufficient volume results in a surplus of revenue that makes these charity eye centers financially sustainable.

In 2010, Project Vision is operating 16 charity eye centers in 5 provinces. Over 50,000 cataract surgeries have been performed so far and an additional 100,000 cases are projected by the end of 2011. Using this scalable model, Project Vision has the audacious goal of eventually opening 100 rural charity eye centers throughout the country. While the initial centers have been capitalized through private philanthropy, the Central Chinese Government is providing partial financial support amounting \$18 million (US) toward Project Vision's current campaign to

eradicate cataract blindness in Yunnan province. This campaign will include establishing 20 new charity eye centers and performing 200,000 free cataract operations to the indigent over a period of just 3 years. This collaboration also paves the way for continued government funding of future phases of Project Vision's expansion. Private philanthropy, primarily from Hong Kong, has accounted for the remainder of Project Vision's funding to date.

Project Vision surgical training

The cataract surgical training is conducted onsite at the charity centers by traveling Project Vision faculty ophthalmologists using standardized protocols. This is supplemented by additional training at one of three regional Project Vision teaching hospitals, which are located in the major cities of Shantou, Beijing, and Kunming, with a fourth under construction in Haikou. These anchor teaching hospitals routinely perform phaco with foldable IOLs along with the full range of ophthalmic tertiary subspecialty care. However, in contrast to other academic centers, they are also very focused on training and supporting ophthalmologists who staff surrounding Project Vision rural charity eye centers. Based on demographic considerations, Project Vision selects the sites for these rural centers, which in most cases are geographically linked to these central anchor hubs. Of course, China's overall population is of such scale that each rural eye center will serve a local population of 2-3 million within 1-3 hours driving distance. In addition to teaching at the anchor hospital, Project Vision faculty

members regularly travel to the rural charity eye centers to train and supervise the local doctors on site.

Eventually, the plan is to train surgeons who have become adept at manual, sutureless ECCE in phaco. Phaco would then be offered to those patients who prefer and can afford this higher cost approach. Following the successful cost recovery formula pioneered at Aravind

and Tilganga eye hospitals, this additional revenue could subsidize other needed ophthalmic medical and surgical services.

Editor's note: Dr. Chang is an adjunct clinical professor at the Chinese University in Hong Kong, and is on the international advisory board of Project Vision.