LENS OR LASER
Young ophthalmologists hear debate on which procedures are best in specific circumstances
by Leigh Spielberg in Milan

A young adult asks you about procedures available for correcting his high myopia, how do you decide which way to go - lens or cornea? This question was explored by two senior ophthalmic surgeons during a debate held at the Young Ophthalmologists’ Programme at the XXX Meeting of the ESCRS.

“We must remember that these are not patients in the traditional sense, but young people undergoing elective surgery. Complications due to refractive surgery can be a disaster,” Vikentia Katsanevaki MD reminded her audience.

Dr Katsanevaki, who is head of the Refractive Department, Orasis Eye Centre, Athens, was arguing for the corneal approach to refractive surgery. The protagonist for the intraocular approach was Tobias Neuhann MD of the Marienplatz Eye Clinic, Munich, Germany.

Dr Neuhann pointed out that laser treatment of the cornea has its own potential problems.

“Generally speaking, laser refractive surgery induces trauma, which is subject to healing. Further, laser treatment can lead to high-order aberrations, which generally do not occur with implantable collamer lenses such as the Visian ICL (Staar).” These lenses, sometimes referred to as implantable contact lenses (ICL), are implanted in the posterior chamber, between the iris and lens. They are an alternative to corneal laser refractive surgery, iris-fixated anterior chamber lenses and clear lens exchange with implantation of an IOL in the capsular bag.

No refractive regression

“With an ICL, the cornea remains undisturbed, dry-eye complications do not occur and visual recovery is rapid. I love the optical quality of the ICL. And it is very predictable, and IOL calculation later in the patient’s life remains unchanged. There is no refractive regression, like we sometimes see after laser surgery,” said Dr Neuhann.

Dr Katsanevaki countered that there could be a chance for induced cataract with an ICL since the lens vaults over the crystalline lens.

“That’s true, that is indeed a potential risk, but remember, early cataracts after excimer laser treatment have also been reported,” replied Dr Neuhann.

He added that corneal stability is excellent with the ICL, with negligible chance of corneal ectasia. Fifteen-year follow-ups have reported stable endothelial cell counts, just like with LASIK. And the shape and biomechanics of the cornea remain untouched.

Laser less expensive

Dr Katsanevaki responded that laser treatment is less expensive, since there’s no specialised lens to buy. LASIK could be more acceptable to the patient, since it has been around for so long.

“I find that it’s important not to try to convince the patient to change his mind, unless the patient is ineligible for the modality requested. Also, it’s important to know something about the patient in daily life. What is the profession, and what are the hobbies and activities of the patient? What are the expectations after treatment?”

Dr Neuhann conceded that laser refractive surgery is still the dominant refractive surgery modality. But he noted that no single technique will be able to solve every refractive problem. For example, in a patient with thin corneas, laser surgery is not an option. In the end, anatomical qualification, potential side-effects and predicted long-term results are the dominant criteria for decision-making. But combining both techniques is possible and sometimes helpful, like in cases in which bioptics is employed.