Dry eye symptoms can be unwelcome sequelae following many types of eye surgery including cataract, refractive and corneal transplantation. With increasing clinical experience, surgeons are learning ways to minimise the risks for post-operative dry eye, and for treating it when it does occur, reported researchers at a EuroTimes Satellite Education Programme held during the XXIII Congress of the ESCRS.

"Dry eye is a complex multifactorial disease and maintaining a healthy ocular surface post-operatively is a growing challenge."

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Luigi Oliveri MD, San Benedetto del Tronto, Italy, discussed the use of ocular surface lubricants after LASIK, noting that dry eye complaints can occur in half of refractive laser surgery patients. He conducted a clinical trial in 30 LASIK patients who used Systane drops (hydroxypropyl guar, peg-400 and polyethylene glycol, Alcon) postoperatively. He reported that after three months the drops had reduced dry eye symptoms and improved tear break-up time. He explained that when components in Systane combine with natural tears, a chemical reaction occurs, forming a gel-like matrix. This creates an ocular shield, allowing epithelial repair in a healthy ocular surface environment.

"Systane is a good idea in these patients. It acts like a protective shield. The patients had improved quality of vision, along with improved quality of life."

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Several studies have demonstrated that the signs and symptoms of dry eye worsen post-LASIK.

"Dry eye is a complex multifactorial disease and maintaining a healthy ocular surface post-operatively is a growing challenge."
Dry eye also a problem after cataract surgery

While dry eye complaints are not uncommon after LASIK surgery, cataract patients also appear to have dry eye problems after cataract surgery, said Juan Duran De la Colina MD, from University of Basque Country, Bilbao, Spain.

“Many of us used to think common dry eye complaints were psychosomatic in most cases, but we now have supportive scientific evidence that something is indeed happening on the ocular surface of LASIK eyes of many patients. I’m sure we are inducing changes in eyes of cataract patients as well. We are seeing many patients after cataract surgery who tell us they are seeing well but are having real problems with dry eye symptoms.”

He noted that cataract patients are often already predisposed to dry eye problems, because of factors including age, and the adverse effects of various medications. Moreover, several aspects of the cataract surgery itself can engender dry eye problems. This includes the pre-operative dilation, the use of antiseptics, and preserved anaesthetic drops.

During the surgery, the use of the speculum, and the creation of the incision, can also be problematic. Finally, in the postoperative stage patients may be using eye drops with preservatives that may actually make the situation worse.

He advised several steps to reduce dry eye complaint in cataract patients. Patients, especially those with predisposing factors such as lid laxity should be informed in advance of potential dry eye problems. Conscientious surgery can also help reduce post-operative dry eye. This includes minimising the stretching of lids, and limiting the use of drops that include toxic preservatives.

Systane useful both pre- and post-op

He emphasised the importance of using unpreserved artificial tears post-operatively. He noted that he had found new artificial tears like Systane drops to be a very useful approach in many cases. Patients with severe clinical dry eye might benefit from pre-operative prophylaxis with such drops.

US surgeon James McCulley MD concurred: “I’ve been using Systane since it came out. Systane is now the first line therapy for all of my dry eye patients. I use it pre- and post-op for LASIK patients. It works alone quite well in cases of mild to moderate dry eye. The q.i.d dosing is actually therapeutic, in contrast to what we were doing before, putting in an artificial tear replacement that was just salt and water. I’ve been delighted with the results.”

“Systane is now the first line therapy for all of my dry eye patients. I use it pre- and post-op for LASIK patients.”

James McCulley MD

Researchers compared the effects of Systane and saline drops in a multi-centre, randomised, placebo-controlled trial. Eighty-seven dry eye patients applied the drops in both eyes four times per day. All patients had a sodium fluorescein corneal staining score of greater than three in their worse eye at the time of enrolment.

Patients receiving Systane also reported more symptomatic improvement than the control group. Questionnaires revealed less morning dryness, less dryness at the end of the day and less frequent foreign body sensation.