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Erbium "Phacolaser" Removes Soft to Moderately Hard Nuclei With Minimal Complications Italian Investigators Report

ATHENS - Three year experience with the new erbium "phacolaser" (Aesculap Meditec Model AMCL29) indicates that it can remove soft to medium hard cataracts very effectively with few complications, according to a presentation to the 3rd ESCRS Winter Refractive Surgery Meeting here by Alessandro Franchini, MD.

The procedure causes little endothelial cell loss or other post-operative complications. In addition, the fact that the laser produces much less of a heat increase at the fibre tip than phacoemulsification does, means that it can be used safely without a sleeve, said Dr. Franchini, University of Florence Eye Institute, Florence, Italy.

As of now he has used the laser for more than 200 cataract extractions and presented data to the meeting which included 35 patients who underwent the laser procedure with a one-handed technique and who formed part of the protocol of a study carried out in two

European sites. The Italian group included 12 men and 23 women ranging in age from 58 to seven years. The hardness of the nuclei ranged from 1 to 4.

Prior to laser emulsification of the cataract, Dr. Franchini and his associates performed a classic divide and conquer technique through a 3 mm scleral incision, and a foldable silicone IOL was implanted in all cases following removal of the cataract, he explained.

The average emulsification time required for the entire group of patients, who have now been followed for up to six months, was 9 minutes and 23 seconds and varied with the density of the nucleus. That is for nuclei in the 1-2 density range, the average time was 5'37", for densities of 2-3, 7'15" and in the 3-4 range, 14' 24". The average number of laser spots required for emulsification of the nucleus was 5432 with a minimum of 1203 spots and a maximum of 29,526, again depending on nuclear

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	Nuclear Hardness	Number Patients	Average Emulsion Time	Average No Spots	Average Energy (J)
Group 1	1 - 2	9	5'37"	2490	24.75
Group 2	2 - 3	15	7'15"	4354	50.7
Group 3	3 - 4	11	14'24"	9199	106.9

Courtesy Alessandro Franchini, MD

Human Amniotic Membrane Transplants Useful Tool For Managing Severe Surface Eye Diseases

By John F. Henahan

ATHENS - Transplantation of human amniotic membrane is a useful tool for improving the management of severe external diseases of the eye, Anastasios John Kanellopoulos, MD will tell the 3rd ESCRS Winter Refractive Surgery Meeting here.

The procedure, which was pioneered by Shaeffer Tseng, MD, Bascom Palmer Eye Institute, Miami Florida is particularly useful for managing pemphigoid, chemical burns of the eye and other severe external eye diseases either alone or in combination with penetrating keratoplasty and conjunctival autograft transplantation, said Dr. Kanellopoulos, Hellenic Eye Centre "ORASIS", Athens Greece. He is also a member of the Cornea Transplant Service and resident education at the Manhattan Eye, Ear and Throat Hospital, New York City.

"The reason we chose to work with the human amniotic membrane, which is processed by Bio Tissue, Florida USA, is that at the present time, there are few successful and safe alternatives for the management of these severe

external eye diseases. Its advantage is that it provides two useful substrates which assist in the re-constitution of the damaged eye surface," he told EuroTimes in an interview.

"The basement membrane creates a scaffold on which the corneal epithelium is able to grow and re-epithelialise the eye surface when it has been weakened by pemphigoid or other diseases. In addition, the "sticky" stromal underside of the membrane contains biological suppressors of a variety of tissue-growth factors which ordinarily induce the proliferation of the fibroblasts which contribute to scar formation."

"Dr. Tseng primarily uses the amniotic membrane transplants along with conjunctival allografts, using tissue taken from closely related donors, while I have been using it as well along with conjunctival allografts taken



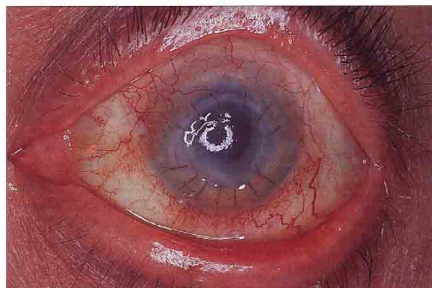
Anastasios John Kanellopoulos, MD

from the patient's other healthy eye. I have also used it in combination with penetrating keratoplasty and in one case as a primary procedure for reconstructing the corneal epithelium. For example, I have used it successfully along with keratoplasty to help manage persistent epithelial defects," Dr. Kanellopoulos said.

In Athens he will be reporting on the outcome of eight patients with pemphigoid and herpetic keratitis disease with severe dry eye disease and persistent epithelial defects and who have been followed for up to twelve months. The procedure involves loosely suturing the semi-translucent amniotic membrane to the corneal surface and is quite easy to perform, he noted.

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ESCRS/GIOIRSS WINTER MEETING - ATHENS



78 y/o patient s/p cornea transplant of 1 year suffering persistent epithelial disease due to herpetic neurotrophic surface disease. Pre-op.



Same patient 1 day post-op amniotic membrane transplantation. The semi-transparent membrane can be visualised over the external surface.



Same patient 2 months post-op. No sign of the amniotic membrane present. The external surface is revitalised without surface defects.

Courtesy A. Kanellopoulos

Human Amniotic Membrane Transplants

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"Usually if the external disease is really severe, I prefer to re-constitute the surface with the conjunctival autograft or penetrating keratoplasty and then place the amniotic transplant over it. That was how we managed one patient with severe herpetic disease and a perforated cornea. In order to address the external disease, which the corneal transplant did not, we placed the membrane on top of the graft and the patient did not develop an epithelial defect on the graft. To me, that was quite impressive.

Alternative to Tarsorrhaphy?

"You can't really see what is going on after the amniotic membrane has been placed, but after it has dissolved away, usually within two or three weeks, you can invariably see that the surface has been well re-constituted. All three patients with neurotrophic herpetic disease had no problems with the epithelium after transplantation of the membrane. To get that kind of result, you would ordinarily have to do a tarsorrhaphy or place a punctal plug, which can be much less comfortable for the patient," Dr. Kanellopoulos told *EuroTimes*.

"In our patients the anatomical results have been very good. As for visual rehabilitation, it depends on the underlying disease. For example, if you are dealing with a patient with glaucoma or age related macular degeneration, you don't just have the surface problem, and the other conditions will reduce expectations for a good visual outcome."

"Although our sample is admittedly small, we haven't seen any complications associated with the procedure. A small disadvantage is that some patients who are very demanding, may not be happy that the eye has a somewhat clouded appearance after the membrane has been transplanted, but that is a transient problem. Otherwise, our patients are quite happy with the results.

"Perhaps another disadvantage is the cost of the membrane. It is shipped to us in a container at -70° C, and must be treated to remove any possible contaminants. It is also extensively screened for HIV, syphilis and hepatitis B viruses, all of which involves considerable testing, nevertheless. The remarkable clinical results that can be achieved make the effort and expense worthwhile in my opinion," he concluded.

Dr. Kanellopoulos is also Assistant Professor of Ophthalmology at the State University of New York.