Modified Osteo-Odonto-Keratoprosthesis Surgery

Cirugía de osteo-odonto-queratoprótesis modificada

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This is the case of a 31-year-old male who lost his eye in an accident at work that involved steam burning from a large pressure cooker that exploded. His entire body was burned, as were both eyes (Fig. 1); preoperative visual acuity was only light perception.

This case corresponds to the first surgery performed in America using the modified osteo-odonto-keratoprosthesis (MOOKP) technique in cooperation with the OOKP Foundation Rome, carried out in Santiago, Chile, at the Clinical Hospital of the University of Chile in 2008.

The osteo-odonto-keratoprosthesis (OOKP) technique was developed by Dr. Benedetto Strampelli in 1964; later, it was perfected through modifications made by Prof. Dr. GianCarlo Falcinelli. This technique is widely recognized and accepted, and is certified by the Rome-Vienna protocol, published in the Cornea journal in 2005¹.

The MOOKP is a type of ophthalmic surgery that allows visual recovery of a blind eye when corneal transplants have failed, or when corneal transplants are not feasible. The MOOKP technique corresponds to an autologous transplant, in which an osteodental lamina, extracted from the maxilla, is used as biological support for a polymethyl methacrylate (PMMA) cylinder of a size previously calculated by ultrasound and therefore specific for each patient. After an integration and

Figure 1. Appearance of the right eye of the patient.

vascularization period of 2 to 3 months under the skin, the cylinder is placed on the corneal surface of a previously prepared eyeball, allowing the free passage of light and, consequently, visual recovery, with a visual field of about 40°. This allows patients to have a normal life, taking them out from their condition of blindness (Fig. 2).

The refractive result of the patient three months after the completion of all stages of surgery was 20/30 with a correction of +0.75 sphere for far vision, and Jaeger 7 for near vision with a +4.00 sphere.

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Figure 2. MOKP result in the left eye of the patient three months after completion of all stages of surgery.

Ethical disclosures

Protection of human and animal subjects. The authors declare that the procedures followed were in

accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

Conflicts of interest

The authors declare no conflicts of interest.

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