Research Article

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Update of Keratoconus Correct Microsurgical Resolution Mini Selective A.R.K.

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Abstract

Dr. Massimo Lombardi has conceived in the 80' a definitive microsurgical solution to correct the Refractive Corneal Distortion due to Keratoconus the: "Mini Asimmetric Radial Keratotomy".

That in my long and intense experience it is still today the "Elective best Microsurgical Procedure" for the better refractive and anatomical modification of the affected Cornea.

For the Etiopathogenesis of the Sickness Dr. Massimo Lombardi has discovered it with a Bioelectronique Technitian: Valerio Tomassini,: it is a Fungus of the Aspergillus family that causes a "Collagenopathy" producing an easy Malleability of a Tissue the Cornea that it is, when in the normality, very strong instead, inducing a progressive Corneal Ectasia with a Corneal surface growth and enlarging Curvature and K. Readings Improved values.

Everything it is clearly explained in my previous Published Scientific Article: "Keratoconus Etiopatogenesis and True Cure: Modern Concepts" Published with the N. ISSN: 2573-9565 of the "Journal of Clinical Review and Case report"2018.

Introduction

Dr. M. Lombardi has modified the classic Radial Keratotomy on 360 degrees reducing

1. The operatory corneal zone to the limited deformed area by the Keratoconus that it is revealed by the Corneal Map and
2. Reducing also the length of the incisions to the half of the regular one length, (from corneal periferia to the border of the central optical "useful zone", free from incisions for about 3, 5 to 5 mm of diameter.)

(Normally Keratoconus affected corneas are more soft than butter at home temperature).

Clinical surgical results are so good that "not one patient" out of about more than 26000 patients operated in 35 years has never regret the decision to have been operated by Mini A.R.K.

Materials and Method

What you need it is a "Corneal Eysis map" to define the area interested by the Keratoconus deformation, a millimetric paper a ruler and a pencil to prepare the correct operatory program, a good diamond knife and a steady and firm sure hand not to do damages.

INSTRUMENTATION FOR MINI ARK MINI ARK PHOTO

Prof. Sato has established the fact and the Principle that any corneal incision will provoke a "Corneal Flattening" in the point of the incision and nearby.

Using these simple instrumentation and Principle it is possible to apply to the Keratoconus affected corneas the same and obtain (if correctly applied and using a good experience in corneal Diamond incisional microsurgery) the Result that the modified Cornea will improve consistently the vision and substantially reduce the Refractive Irregularity and Defect.

Statistically talking the 70% of the operated Patients see 20\20 without correction, 15% will use occasionally a correction and remaining 15% need to use a correction but with a much improved Visual Acuity and a substantially reduced refractive correction.

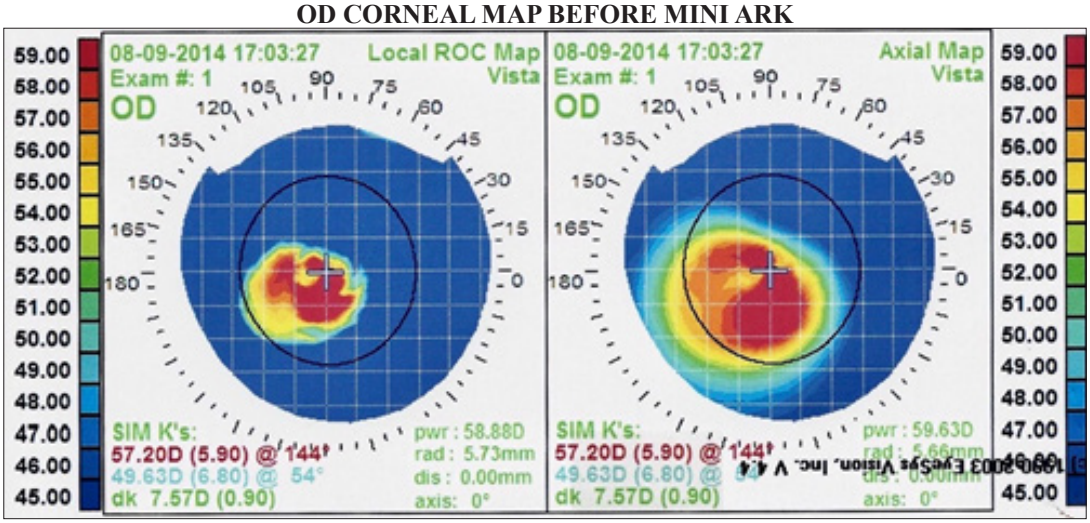
We have to give to the Memory of the Great Prof. Sato' Geniality the Respect the Admiration and the due apologies for having been misunderstood and badly treated by his Colleagues at his time in the 50' He did an unwillingly and unconscious mistake to do incisions from the inside face of the Cornea cutting the Deschmet membrane and provoking in a certain number of cases cornea opacification that was due to the ignorance of Ophthalmologists of that time of the importance and vital function of the Deshemet membrane - so a great but unwanted and unconscious mistake.

I have received one of his knifes as a present from my Master Prof. G. B. Bietti (President of O.M.S. For Ophthalmology) in the early 80', knife that he did receive directly as a Present from Prof. Sato. With good diamond knifes operating Myopes only on the corneal surface (as by the school of my Second Master Prof. S, N. Fyodorov in Moscow) I could correct high Myopes till: "- 21 diopters" with zero defect after the microsurgery - many my Colleagues in Italy in the 80' – 90' could see what I am asserting here.

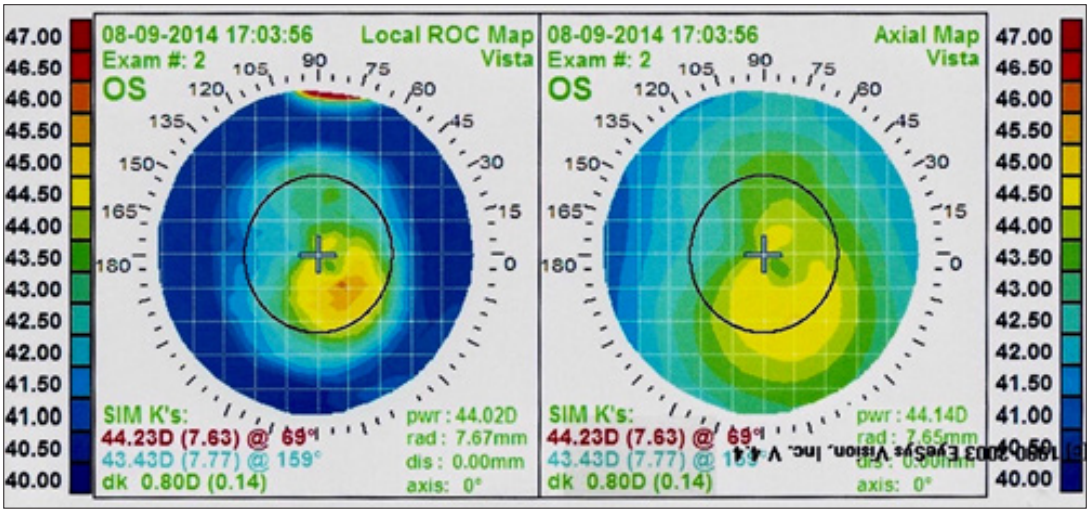
Method

To operate correctly Keratoconus Corneas you have to focus on the "Corneal affected area" that you can see in the Corneal Map from Eyses detector. (For me the best Corneal Map Detector.)

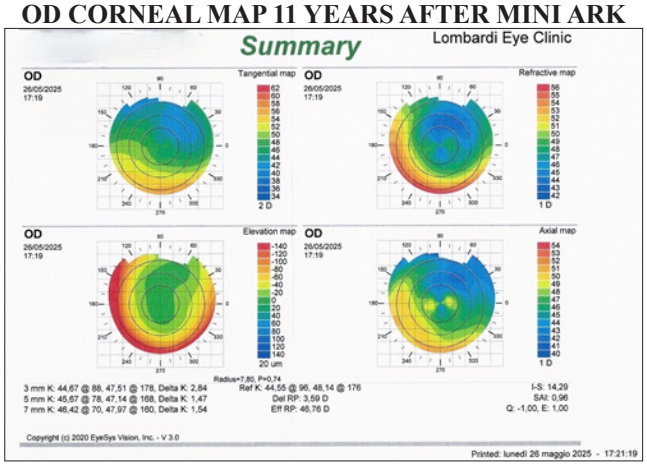
OD CORNEAL MAP BEFORE MINI ARK



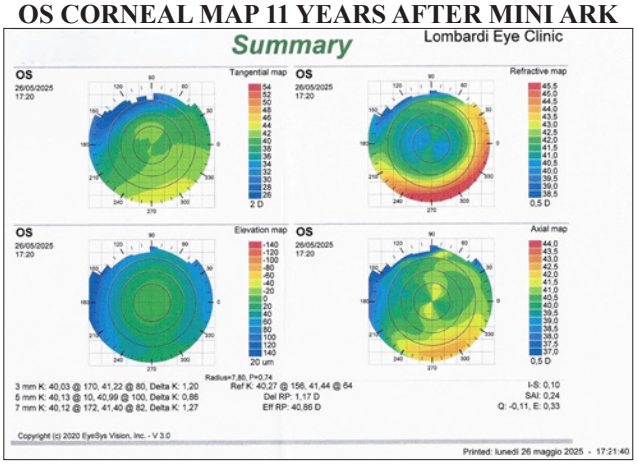
OS CORNEAL MAP BEFORE MINI ARK



OD CORNEAL MAP 11 YEARS AFTER MINI ARK



OS CORNEAL MAP 11 YEARS AFTER MINI ARK

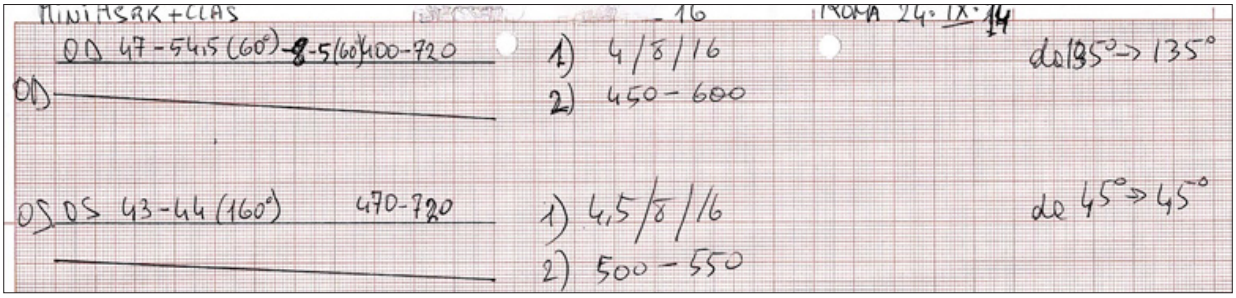


Only in that area must be applied the Corneal Incisions for a depth of 70%-

I do not suggest to go deeper because it is easy to perforate the Cornea damaging the Endothelium.

No more than 8 to maximum 12 radial incisions are needed the 12 for a Keratoconus Surface of nearly 360 degrees - mining nearly the whole Cornea.

OPERATORY PROGRAM



If you will read my Complete Scientific Article published about Keratoconus as shown above in this Article, you will understand the embryological Cornea formation and why the K. Can appear with a fisical Center at six o clock (considering the Cornea as a clock face) that it is the normality or even at 12 o clock that it is the opposite of normality but a much less aggressive and more favourable K. Because the upper lid will maintain under a continuous slight compression the growing corneal surface reducing the growth.

The "flattening effect" of the incisions will make Cornea Surface to implode reducing the Corneal Curvature with a - not linear progression - reducing and correcting the Corneal Asymmetry and refractive error this "effect" will continue with an irregular time curvature where just after the Operation you have the maximum flattening and correction effect that will spontaneously regress because of the scaring process to Re-improve the flattening and the correction slowly but progressively in the following 2 to 4/5 years.

Conclusions

The winning Principle is that the Corneal Implosion with its flattening reduces consistently the "Corneal-Curvature - K. Reading value" demonstrating the good optical result from this mini A.R.K. microsurgical solution.

Obviously a good brain and an individual Skill is demanded for a good and safe result.

Dr. Massimo Lombardi - in Rome - the 25 \ 07 \ 2025

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