

# **Autologous Serum Eye Drops In the Treatment of Neurotrophic Keratitis**

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## **I. Purpose:**

To evaluate management of Iatrogenic Neurotrophic keratitis with autologous serum treatment in 14 patients affected by Neurotrophic Keratitis.

## **II. Methods:**

we enrolled 14 patients (9 female, 5 males) with diagnosis of Neurotrophic keratitis, (mean age:  $72,1 \pm 11$ ) treated with autologous serum for 1 year. Patients were included in 3 groups according to recent NK classifications (stage I, II and III). Confocal microscopy evaluation (IVCM), anterior segment (AS.OCT) Minimum corneal thickness MCT , and Best corrected visual acuity were performed at 15 days, 1 month 3 months 6 months and 12 months after treatment.

## **III. Results:**

36 patients showed a full recovery of corneal Neurotrophic keratitis starting from 1 month after the beginning of treatment, BCVA increased from a baseline 0,397 avg to 0,22 logMAR at 12th month , MCT increased from 356  $\mu\text{m}$  at baseline to 465  $\mu\text{m}$  at the end of follow up



#### IV. Discussion

Autologous serum eye drops are actually used in the treatment of many ocular diseases, and many studies have demonstrated the effectiveness of AS eye drops in treating different conditions such as superior limbic keratoconjunctivitis, recurrent corneal erosion, neurotrophic keratopathy, and Sjogren's syndrome. In addition, there have been few reports that show the efficacy of some blood products such as platelet-rich plasma (PRP) in treating chemical burns. Hence, we started using AS eye drops for different ocular surface diseases that were not responding to conventional therapies. Our study investigated a heterogeneous group of pathologies with different pathogeneses to understand better the role and potentialities of AS.

#### V. Conclusions:

According to literature and to our study results, autologous serum is a valid medical approach for the treatment of Neurotrophic keratitis. Autologous serum harbors neurotrophic factors. Autologous serum treatment may provide neural healers to the compromised ocular surface and seems promising for the restoration of the ocular surface epithelial integrity in patients with NK.

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