EFFECTIVENESS OF EYE APPLICATORS AND TRADITIONAL THERAPY IN MYOPIA, ASTIGMATISM, AND ACCOMMODATION SPASMS

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Introduction

Myopia (nearsightedness) and astigmatism are common conditions that can cause vision distortion. It is important to differentiate their degrees, as the treatment can vary significantly. This study examined the effectiveness of traditional treatment and the use of herbal extract-based eye applicators in treating mild myopia and astigmatism, as well as accommodation spasms, which are frequently associated with these conditions.

Group with Applicators

In the group treated with eye applicators, there was a significant reduction in the levels of inflammatory markers and neurotrophic factors in both blood and tears. Accommodation spasms and mild astigmatism are often accompanied by inflammatory processes, which was confirmed by the reduction of markers such as TGF-β, IL-6, TNF-α, MCP-1, and NGF. After two months of treatment, the level of TGF-β in the blood decreased by 11.1%, IL-6 by 11.3%, TNF-α by 7.9%, MCP-1 by 10.6%, and NGF by 9.5%. Improvements were also observed in the tears: TGF-β decreased by 10.6%, IL-6 by 9%, TNF-α by 10.4%, MCP-1 by 8.2%, and NGF by 10.9%. These data confirm the high efficacy of eye applicators in reducing inflammation and neurotrophic factors, which may contribute to improved accommodation function and reduced vision distortion.

Group with Traditional Treatment

In the traditional treatment group, changes in the markers were less pronounced. The level of TGF-β in the blood decreased by 5.8%, IL-6 by 9.5%, TNF-α by 6.2%, MCP-1 by 5.6%, and NGF by 5.8%. These changes also indicate a positive response to therapy aimed at reducing inflammation typical of mild myopia or astigmatism, as well as restoring accommodation function.

Comparative Analysis

Comparing the groups, several key differences can be noted. In the eye applicator group, a more significant reduction in the levels of inflammatory markers such as TGF-β, IL-6, TNF-α, MCP-1, and NGF was observed, which also confirms the effect on accommodation spasms and improvement in visual quality in patients with mild myopia and astigmatism.

Traditional Therapy

Patients receiving traditional treatment for mild myopia showed improvement in the condition of the eyes. In particular, the reduction of inflammatory markers such as TGF-β, TNF-α, and IL-6 indicates a decrease in inflammation in the eyes, which may accompany mild forms of myopia and astigmatism, especially in cases with accommodation dysfunction.

Eye Applicator Treatment

Treatment with eye applicators showed improvement not only in reducing inflammation but also in tissue regeneration, which is particularly important in treating astigmatism and mild myopia. These changes may contribute to a reduction in accommodation spasms and improve the overall condition of the eyes.

Conclusion

This study showed that eye applicators have a more pronounced effect on reducing inflammatory markers, which can be beneficial both in myopia and mild astigmatism, particularly in cases with accommodation spasms. Traditional treatment is also effective but has a more pronounced effect in the short term. In contrast, treatment with eye applicators may provide long-term regeneration and restoration of visual functions.