

## **Glycerine with anti-inflammatory effect**

*A preliminary summary by Kiss H.*

12% of the dry eye patients associated with reduced tear production is diagnosed with Sjögren syndrome. In the cases of these patients considerable ocular surface staining, reduced tear production verifiable with Schirmer test and marked subjective complaints may be reckoned with most frequently. Treatment of the dry eye caused by Sjögren syndrome is also carried out with tear replacement in first line, however, on development of corneal complications the application of topical or general anti-inflammatory treatment is suggested. From among the topical anti-inflammatory agents the efficiency of the corticosteroid-containing eye drops is high, however, their chronic use may lead to cataract formation and increase of the intraocular pressure. The cyclosporine also available in our country, as well as the lifitegrast not yet launched to the market in Hungary are efficient anti-inflammatory agents. Beside reduction of the inflammation and upon the effect thereof, the latter agents may also cause enhancement of the tear production. Use of the eye drops containing cyclosporine or lifitegrast may cause burning, stabbing pain, foreign body sensation as side effect which are hard to tolerate for a dry eye patient.

In the course of our examination, because of its high glycerine content, we studied the efficiency of the Conheal<sup>®</sup> eye drops in such cases of the moderate-grade dry eye associated to the Sjögren syndrome where the ocular surface showed staining with Lissamine Green and it caused marked subjective symptoms detectable with OSDI questionnaire. Each of the 21 patients enrolled in our study received artificial tear treatment earlier which was lasting and applied several times a day, and their ocular surface symptoms developed in spite of this. During the 3-month study, the preservative-free artificial tear product was dripped into both eyes of the patients 4-times a day. The lid-parallel conjunctival folds (LIPCOF), their ocular surface staining with Lissamine Green and the tear production of the patients as well as their subjective symptoms with the aid of OSDI questionnaire were measured at the initial visit and at the visits in the month one and three.

In the 3-month duration of the study, the LIPCOF value of the patients was reduced from 2.5 to 1.4, their Lissamine Green staining according to the Oxford scale from the average grade 2 to grade 0.3 (see Figure 1) and their subjective symptoms expressed in OSDI scores from the average 56 to 32.5. There was no change in the tear production of the patients during the study.

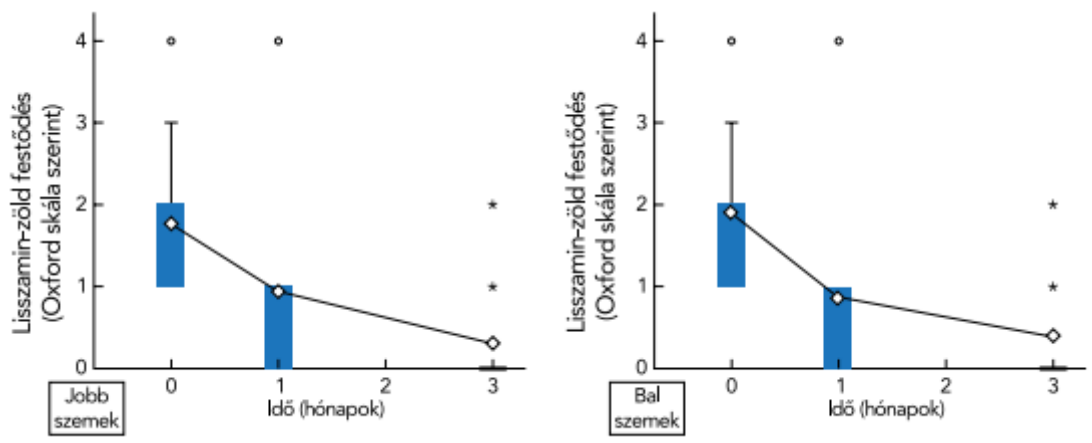


Figure 1: The artificial tears with high glycerine content ceased the corneal staining almost completely in the patients with Sjögren syndrome by the end of the three-month treatment. In the patients the initial ocular surface staining was developed in spite of the earlier lasting use of artificial tears. (Lissamin-zöld festődés (Oxford skála szerint) = Lissamin green staining (according to the Oxford scale); Jobb szemek = Right eyes; Idő (hónapok) = Duration (months), Bal szemek = left eyes)

Our working group already described the reduction of the LIPCOF values observed beside the regular use of artificial tears with a high glycerine content like this earlier as well, on the basis of the earlier results the high glycerine content decreases the HLA-DR expression in the cells of the ocular surface in chronic inflammation through decreasing the activation of the Toll-like receptors 2 and 3 (TLR2 and TLR3).

In the course of our current study, we found a considerable reduction in the corneal staining, in 76% of the cases the complete cessation thereof without increase of the tear production in the circle of a special dry-eye group, in the ones with Sjögren syndrome. With our patients the objective and subjective symptoms of the dry eye existed beside the prior regular use of artificial tears, however, upon the use of the studied product, the symptoms were mitigated. By selecting the proper artificial tear product, a considerable improvement may as well be reached in the moderate form of the dry eye appearing in the Sjögren syndrome without the use of eye drops containing active substance with the patients.

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