

Study suggests ulcer medication effective in dry eye

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in Fort Lauderdale

A MEDICATION used to treat gastrointestinal (GI) ulcers shows promise as a treatment for dry-eye, according to a study presented at the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO).

Researchers presented results from a randomised efficacy and dose-finding trial of rebamipide involving 200 patients who presented with signs and symptoms of dry eye. All had Schirmer's test results of less than 7.0 mm and nearly one-third had Sjogren's disease, reported Peter Donshik, MD, professor of ophthalmology at the University of Connecticut, US.

Dr Donshik and his associates randomised patients into four groups of 50 after a two-week run-in period. Three groups received specific doses of a rebamipide ophthalmic eye drop solution (0.5%, 1% and 2% suspension). The fourth group received placebo consisting of artificial tears, the ophthalmic vehicle. Patients in each group used the drops daily for a total of 12 weeks.

The primary objective endpoint was change in

fluorescein corneal staining. The secondary objective endpoints included lissamine green conjunctival staining and Schirmer testing.

The primary subjective endpoint was the patient's primary ocular discomfort (POD), defined as the symptom that the patient is most bothered by. This was identified

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at screening. Patients had to call in every day during the study period and rate their symptoms on a scale of 0 to 4 (from no symptoms to severe). All patients had to be at least at level 2 at enrolment.

Secondary subjective endpoints included the severity of individual dry-eye related

ocular symptoms and the subject's overall impression of their treatment at week 12.

Improvements in objective and subjective endpoints

Dr Donshik noted that only the 2.0 % solution showed significant effects on the endpoints. Patients who used the 2.0 % rebamipide drops had statistically significant improvements in fluorescein corneal staining by week six. Patients in that group also reported significant reductions in burning and pain.

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"The trend was for an improvement in terms of less corneal staining over the 12 week period."

improvement in terms of less corneal staining over the 12 week period, which was statistically significant at week

six, and approached statistical significance at week 12. The improvement in the primary ocular discomfort score was statistically significant at week 12," Dr Donshik said.

Schirmer's test results were also statistically superior to the placebo group at week two and week eight in the 2% rebamipide group. The researchers also noted favourable trends at 12 weeks (which were not statistically significant) in fluorescein corneal staining scores, POD scores and lissamine green conjunctival staining. Overall treatment impression scores showed a favourable trend by the end of the study period.

All three strengths of the rebamipide drops were well tolerated and had no significant side effects, though some patients complained that there was a bad taste.

"It looks like this drug will help both the signs and the symptoms. The drops did demonstrate a decrease in signs and symptoms, and we even showed an increase in tear production," Dr Donshik said.

Agent increases mucin production

Rebamipide was developed in Japan and is currently used there

in an oral formula for the treatment of GI ulcers. The drug has anti-inflammatory action. Japanese researchers observed that there was an increase in mucin production associated with the treatment. It was thought that if the drug increased mucin production in the gut, it might do the same thing in the eye and be of use in dry-eye patients.

Laboratory work had shown that rebamipide increases mucin production, specifically of Muc1 and Muc4. However, the mechanism of how it achieves this is not yet well understood. Whether it stimulates existing healthy mucin glands to produce more mucous, or does something to improve poorly performing glands is not known. How long it may do this for is not yet known either, he noted.

"We do know we're helping dry eye patients by restoring the mucin to the tear film. It improves the quality of the tear film, and decreases both the signs and symptoms of the dry eye," he said.

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