PURPOSE: To investigate changes in corneal parameters and the tear film after botulinum toxin-A (BTX-A) injection in patients with blepharospasm or hemifacial spasm.

METHODS: Twelve patients with benign essential blepharospasm and 30 with hemifacial spasm treated with BTX-A were included in this study. Disease severity was evaluated using the Jankovic scale. Corneal parameters were measured using the Pentacam. The Schirmer test score, tear breakup time, corneal fluorescein staining value, and Ocular Surface Disease Index score were also evaluated.

RESULTS: The BTX-A treatment relieved spasms in all of the patients. There was a statistically significant difference in disease severity between pretreatment and the third week (2.7 ± 0.8 and 1.3 ± 0.6, respectively; P < 0.001), but there was no statistically significant difference between pretreatment and the third month (2.7 ± 0.8 and 2.7 ± 0.8, respectively; P = 0.8). The tear breakup time was found to be significantly higher at both 3 weeks and 3 months after injection (6.6 ± 4.0 at pretreatment, 8.1 ± 3.9 at the third week, and 7.8 ± 4.2 at the third month; P = 0.04 and P = 0.02, respectively). The Schirmer test score, corneal fluorescein staining values, and Ocular Surface Disease Index score were lower 3 weeks after injection, but these values increased again by 3 months after injection. Corneal astigmatism decreased significantly at 3 weeks and at 3 months after injection [1.4 ± 1.2 diopters (D) at pretreatment, 1.2 ± 0.8 D at the third week, and 1.1 ± 0.8 D at the third month, respectively; P = 0.02, for both], but other corneal parameters did not change.

CONCLUSIONS: BTX-A injection therapy was affected the tear film in patients with blepharospasm or hemifacial spasm. However, there were no changes in corneal parameters, except corneal astigmatism, in these patients after treatment.