

Morphological changes in the meibomian glands of patients with phlyctenular keratitis: A Multicenter Cross-sectional Study

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Abstract

Background: Phlyctenular keratitis is a hypersensitivity reaction of the cornea, and a complication of eyelid margin disease in children and young adults. In this study, we compared the morphology of the meibomian glands in eyelids between phlyctenular keratitis patients and healthy young adults, using noncontact meibography.

Methods: The study included 16 eyes of 13 patients diagnosed with phlyctenular keratitis and 17 eyes of 17 healthy volunteers. Slit-lamp observations of the cornea and eyelid were performed on all subjects. The morphology of the meibomian glands was scored using non-contact meibography (meiboscore). The meiboscore in worse eye was used in bilateral phlyctenular keratitis.

Results: All eyes with phlyctenular keratitis, but not normal controls, showed corneal nodules, neovascularization, and superficial punctate keratopathy. The mean meiboscore in phlyctenular keratitis patients (upper lid: 2.9 ± 0.3 , lower lid: 2.7 ± 0.5) was significantly higher than in controls (upper lid: 0.4 ± 0.6 , lower lid: 0.1 ± 0.3).

Conclusions: Noncontact meibography enabled visualization of meibomian gland loss in phlyctenular keratitis patients, suggesting a relationship between abnormalities of the meibomian glands in young individuals and the pathogenesis of phlyctenular keratitis.

Keywords: Phlyctenular keratitis, meibomian glands, meibography, meibomitis.