Pseudo-unilateral Epithelial Basement Membrane Dystrophy (EBMD) After Discontinuation Of Long-term Overnight Orthokeratology: A Case Report

ABSTRACT

Purpose. To report an unusual case of central corneal epitheliopathy (pseudo-EBMD) after discontinuation of long-term orthokeratology lens wear.

Case Report. A single observational case report of an 18-year-old Chinese female myope, who discontinued her overnight orthokeratology lens wear for about one year, complained about gradually distant vision blurry in her right eye during a regular post-orthokeratology aftercare consultation. She had a history of overnight orthokeratology treatment for 8½ years. Subjective refraction history after ceasing orthokeratology treatment showed significant increased in corneal astigmatism (about 2D) from her baseline findings in both eyes. Corneal topography revealed significant central corneal steepening in her right eye. Nevertheless, central corneal thickness was within normal limit in both eyes. Biomicroscopy revealed a painless central corneal epithelial lesion in her right eye. Trace or almost negative fluorescein staining was observed over the lesion area. The clinical appearance of the corneal lesion mimicked a map-dot-fingerprint dystrophy. Corneal endothelial cell counts were clinical unremarkable in both eyes. The lesion was mostly healed after the prescription of intensive topical lubrication eye drops and eye gel for two months. Close monitoring of the corneal condition is needed for the patient with special emphasis on the prevention of recurrent corneal erosion.

Discussion. The possible etiology, clinical management and differential diagnosis of this post-orthokeratology pseudo-EBMD condition are discussed.

Conclusion. The pseudo-EBMD may be associated with the slow redistribution and rebound effect of corneal epithelial tissues after the ceasing of long-term, overnight use of orthokeratology lenses. Importantly, it should be ruled out from true EMBD case.

Key Words: orthokeratology, epithelial basement membrane dystrophy, map-dot-fingerprint, corneal topography