



Lid wiper epitheliopathy

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ABSTRACT

Some recent research has resulted in a hypothesis that there is a common 'lid wiper' region that is apposite to the ocular surface or anterior lens surface (where contact lenses are worn), responsible for spreading tears during blinking. In the upper eyelid, it extends about 0.6 mm from the crest of the sharp posterior (inner) lid border (i.e. the mucocutaneous junction, or line of Marx) to the subtarsal fold superiorly and from the medial upper punctum to the lateral canthus horizontally. Histologically, it is seen as an epithelial elevation comprising of stratified epithelium with a transitional conjunctival structure of (moving posteriorly) squamous cells then cuboidal cells, with some parakeratinised cells and goblet cells. Lid wiper epitheliopathy (LWE) denotes staining of the lid wiper observed after instillation of dyes such as fluorescein, rose bengal or lissamine green. There have been some reports of higher rates of LWE in dry eye patients and contact lens wearers, but others have failed to find such associations. The primary cause of LWE is thought to be increased friction between the lid wiper and ocular or anterior contact lens surface due to inadequate lubrication, which could be caused by dry eye and may be exacerbated by factors such as abnormal blinking patterns, poor contact lens surface lubricity and adverse environmental influences. Recent evidence suggests that LWE is associated with sub-clinical inflammation. LWE has the potential to provide the missing mechanistic link between clinical observation and symptoms associated with dry eye and contact lens wear. Clinical and fundamental research into LWE is still in its infancy and in many instances equivocal; however, it is an idea that provides a potentially important new avenue for further investigation of anterior eye discomfort associated with ocular dryness and contact lens wear.

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List of abbreviation: LWE, Lid wiper epitheliopathy.

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1. Introduction

The contemporary ophthalmic literature contains few examples of reports of new anatomical structures and conditions that rapidly gain traction and enter the common lexicon. One example in the field of anterior eye is a structure known as the ‘lid wiper’ and a

proposed condition brought about by disturbance to this structure referred to as ‘lid wiper epitheliopathy’ (LWE). These concepts were first described only 14 years ago by [Korb et al. \(2002\)](#), but they have attracted considerable attention as evidenced by a growing number of publications and abstracts specifically referring to them. Certainly, the terms lid wiper and LWE are becoming increasingly

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