

Sir,

Corneal valance: a useful sign in epithelial basement membrane dystrophy

Eye (2003) 17, 660–661. doi:10.1038/sj.eye.6700412

Epithelial basement membrane dystrophy (EBMD) is an important cause of intermittent epithelial breakdown leading to blurred vision, foreign body sensation, recurrent erosions or contact lens intolerance.^{1,2} The lesions, best seen in retroillumination, may be missed.³ Corneal valance, a sign described by Shahinian,³ can alert the examiner to the presence of EBMD and may occur even when other signs of the dystrophy are barely visible. Shahinian's sign is a 'scalloped line of tear film thinning' that typically runs horizontally across the top third of the cornea.³

Case report

A 64-year-old man presented with a 10-day history of blurred vision and glare in the right eye. There was no pain. He had no previous ocular history, was in good health and took no medications. Visual acuity was 6/6 OU. Slit-lamp examination revealed subtle dot and map-like patterns in the right superior cornea and similar, but less distinct, changes on the left (Figure 1). With topical fluorescein, corneal valance was seen on the right side (Figure 2). Nonpreserved lubricants were prescribed. After 1 month, the patient's right vision remained blurred and the corneal findings, including Shahinian's sign, remained unchanged.

Comment

EBMD, also known as map-dot-fingerprint or Cogan's dystrophy, is characterised by map-like, geographic, and/or dot patterns and fingerprint lines in the corneal epithelium that can change in appearance, location and number over time.^{2,4} It is the most prevalent corneal dystrophy,⁵ and responsible for over one-fifth of the cases of recurrent erosion.⁶ Sometimes, such as our case, there is visual disturbance without pain.⁷

On histological examination, small intraepithelial cysts containing PAS-positive cytoplasmic debris and pycnotic nuclei^{1,2,4} along with abnormal quantities of multilaminar basement membrane are seen.^{2,8} The hemidesmosomes, between the basement membrane and basal epithelial cells, may be reduced or absent.⁹

Corneal valance (Shahinian's sign), a scalloped horizontal line of tear film thinning,³ is seen on slit-lamp examination with topical fluorescein and cobalt blue light

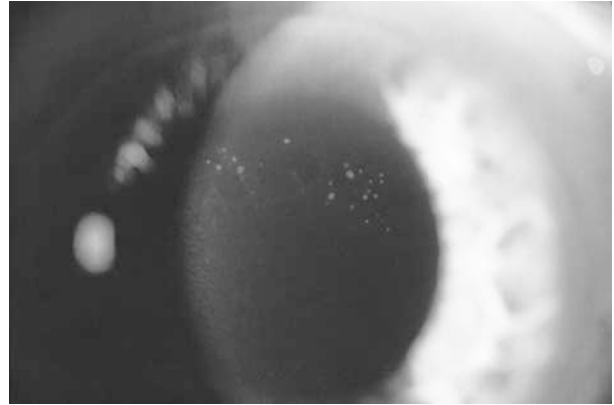


Figure 1 Dot and map-like lines in the right superior cornea.

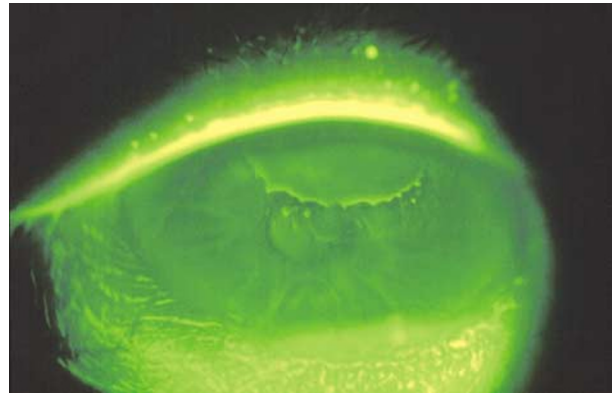


Figure 2 Shahinian's sign in the top third of the right cornea seen with fluorescein and cobalt blue light.

typically in the top third of the cornea (Figure 2). The tear film thinning is accentuated by fluorescein pooling at its margins. The sign was termed 'corneal valance' by Shahinian as it resembled a valanced drapery.³ It occurs in areas of the map and fingerprint lines of EBMD. In recurrent erosion, it is particularly useful as it can alert the examiner to EBMD and thus allow more accurate prognostic counselling and better treatment.³

Tear film thinning seen as corneal valance in EBMD is thought to be because of minute epithelial irregularities, produced by the cysts and excess basement membrane material, increasing the rate of lipid contamination of the tear film's mucin layer.^{2,3,10} Other tear film abnormalities described in EBMD include a reduced tear film, rapid tear breakup, dry areas over fingerprint lines, negative fluorescein staining outlining the areas of dot and map

patterns, and increased tear film debris.^{2,4,8,11,12} Tear film irregularities produce visual disturbance as a smooth optical surface is lost.¹

In our case, painless visual disturbance, map and dot changes, and corneal valance were present (Figures 1 and 2) and a diagnosis of EBMD was made. In patients where the signs of EBMD are subtle or those presenting with painless visual disturbance corneal valance (Shahinian's sign) may be a useful sign, as it can alert the examiner to the presence of EBMD.³

Acknowledgements

The slit-lamp photographs were taken by Mr Rob Terry, CRCERT, University of New South Wales, Sydney, NSW.

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Sir,

Compressed air injury of the orbit in the absence of external trauma

Eye (2003) **17**, 661–662. doi:10.1038/sj.eye.6700420

Orbital emphysema is most commonly the result of traumatic fracture of the orbital bones. Air is then able to pass from the paranasal sinuses into the orbit. Orbital emphysema without evidence of significant trauma is rare, but cases have been reported as a result of compressed air injury from an external hose,¹ and from an exploding automobile tyre.² It has been reported following nose blowing,³ and can occur in the absence of external trauma when compressed air is employed intraorally as an air-abrasive.⁴

We report a case of orbital, subcutaneous and subconjunctival emphysema in the absence of any orbital fracture or conjunctival laceration, secondary to a blast of air from a compressor hose.

Case report

A 29-year-old male timberyard worker routinely cleaned the saws with a compressed air gun. The compressed air gun was thought to have had a faulty trigger, with the result that a high-pressure air stream at 75 lbs per square inch was directed towards his left eye from close range. He remembers seeing the blast 'shoot him in the eye'. He was immediately aware of swelling and closure of the eye. He reported more shock than pain and presented to the casualty department immediately.

The visual acuity was 6/4 RE, 6/6 LE. There was no relative afferent pupillary defect. There was marked emphysema of the lids and cheek on the left extending down to the lower jaw and laterally to the temporomandibular joint. The left eye had 360° of