

Recurrent corneal erosion image by scanning electron microscopy

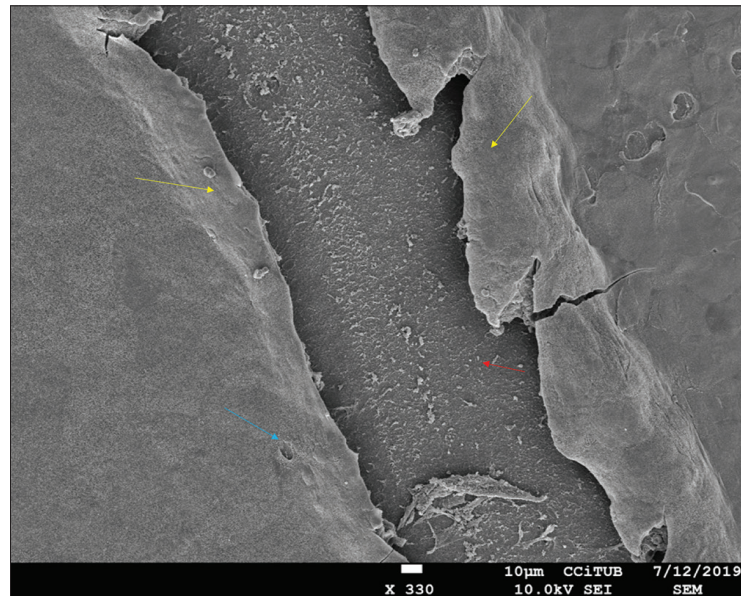


Figure 1: Yellow arrows: epithelial basement membrane, red arrow: Bowman layer, blue arrow: sub-basal nerve foramen

Corneal epithelial basement membrane (EBM) is positioned between basal surface of the epithelial cells and on top of the Bowman layer (BL). It consists of 0.33 μm multilayered extracellular matrix of collagens, laminins, heparan sulfate proteoglycans, and nidogens.^[1]

Recurrent corneal erosions (RCE) are characterized by sudden onset of eye pain typically in eyes that have had suffered from a previous sharp trauma or patients suffering from some corneal dystrophy.^[2,3] The trauma induces a lack of attachment of cell-to-cell or cell-to-matrix causing a disruption.^[4]

We simulated a sharp trauma with a 30 G needle at the epithelium of a corneoscleral-rim from a donor cornea and analyzed it using scanning electron microscopy [Fig. 1] to show how RCE appear and to better understand the anatomical disruption and attachment of the EBM to BL to search new therapeutic targets.^[5]

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Conflicts of interest

There are no conflicts of interest.

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