Eye, Cornea – Necrosis

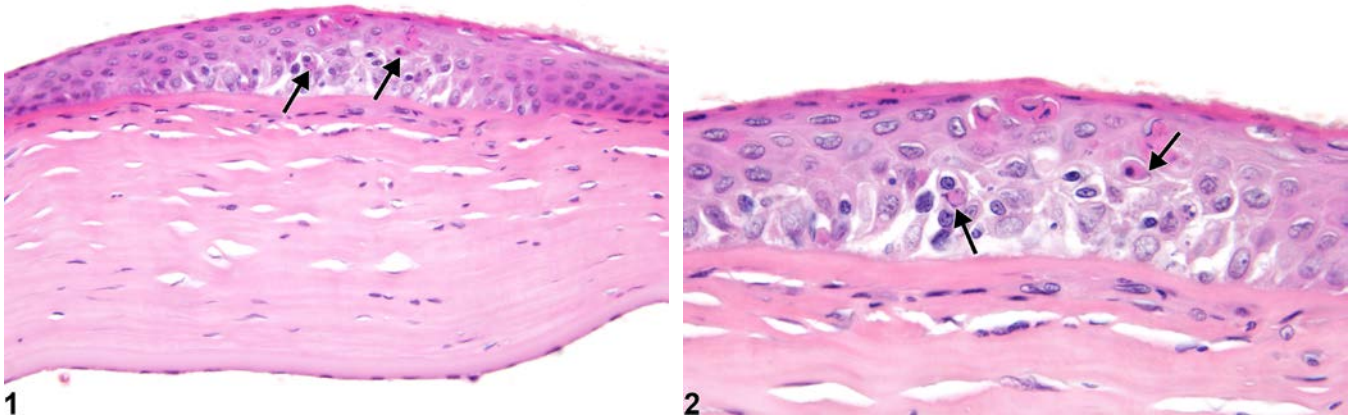

Figure Legend: Figure 1 Eye, Cornea - Necrosis in a female F344/N rat from a chronic study. There are shrunken, hypereosinophilic, necrotic cells (arrows) and corneal epithelial hyperplasia. **Figure 2** Eye, Cornea - Necrosis in a female F344/N rat from a chronic study (higher magnification of Figure 1). Shrunken, hypereosinophilic, necrotic cells (arrows) are present in the hyperplastic corneal epithelium.

Comment: Necrosis of corneal epithelial cells is characterized by shrunken, hypereosinophilic necrotic cells (suggestive of single-cell necrosis) are scattered through the epithelium (Figure 1 and Figure 2). The cells may also appear to have lost their attachments to adjacent cells. Epithelial necrosis can progress to erosion and ulceration. Other corneal cell types (e.g., corneal endothelial cells and stromal keratocytes) can also undergo necrosis. Corneal epithelial necrosis may be accompanied by epithelial hyperplasia or inflammation.

Recommendation: Corneal necrosis should be diagnosed whenever present and assigned a severity grade. The subtopography of corneal necrosis (epithelium, endothelium, stroma) can be described in the pathology narrative. Associated lesions (e.g., inflammation) should be diagnosed separately.

References:

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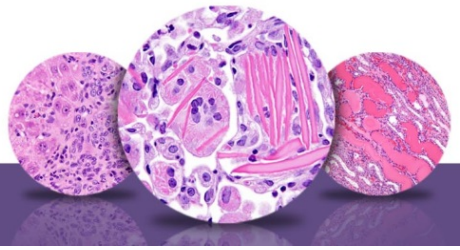
Abstract: http://tpx.sagepub.com/content/26/2/217.short



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References:

Newkirk KM, Chandler HL, Parent AE, Young DC, Colitz CMH, Wilkie DA, Kusewitt DF. 2007. Ultraviolet radiation-induced corneal degeneration in 129 mice. Toxicol Pathol 35:817-824.
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