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Dry Eye Disease

AQUEOUS TEAR DEFICIENCY

Inflammation of the lacrimal gland causes reduced tear production and release of inflammatory mediators onto the ocular surface.

Signs and Symptoms. Burning, blurry vision, symptoms worsening at the end of the day, decreased tear meniscus (<0.3 mm), punctate epithelial erosions/superficial punctate keratopathy (Figure 3-1), and filaments or keratinization in severe disease.

Exams and Tests. Slit-lamp examination with fluorescein, lissamine green, or rose bengal staining; Schirmer's testing (<15 mm in 5 minutes abnormal without topical anesthetic, <5 mm in 5 minutes with anesthetic), tear osmolarity (normal <302 mOsm/L; mild/moderate dry eye disease >315 mOsm/L; severe dry eye disease >336 mOsm/L), positive matrix metalloproteinase 9 (MMP-9) assay, and consider systemic evaluation for Sjögren's syndrome.

Treatment. Artificial tears, gel, or ointment (especially preservative-free formulations), topical cyclosporine 0.5%, lifitegrast (Xiidra,