Abstract:
Purpose of Study: Human milk has been reported to have many positive qualities especially for premature babies in preventing dry eye, eye infections and eye development. Our study was designed to test if human milk is therapeutic for dry eye in a mouse model.

Methods Used: Benzalkonium chloride (BAK) at concentration of 0.2% was applied to the mouse ocular surface for 11 days. Dry eye was determined using thread tear volume and fluorescein tests on day 0, 1, 4, 7 and 11. Whole human milk, fat-reduced human milk, cyclosporine, and physiological saline (vehicle control) were compared for therapeutic recovery of dry eye. Corneal thickness was measured at day 11.

Summary of Results: The mean corneal thickness at day 11 for saline control was 36.05μm±0.06, dry eye was 29.33μm±0.38, human milk was 34.64μm±0.14, fat reduced milk was 35.04μm±0.48, and cyclospoine 37.44μm±1.19, where ± SEM and N=9. The punctate score as measured by fluorescein and thread tear volume tests were not reliable outcome measures in this model.

Conclusions: Treatment of dry eye with cyclosporine, human milk, fat reduced milk and saline for 7 days showed restoration of corneal thickness.

Research Category: Basic Science