Factors Predictive of Corneal Graft Survival

To assess the relationship between donor and recipient factors and corneal graft survival in the Cornea Donor Study, The Writing Committee for the Cornea Donor Study Research Group evaluate graft failure, defined as a regrafting procedure or a cloudy cornea for 3 consecutive months. The 10-year cumulative probability of graft failure was higher in participants with pseudophakic or phakic corneal edema (PACE) than in those with Fuchs dystrophy (37% vs 20%; hazard ratio, 2.1 [99% CI, 1.4-3.0]; P < .001). The authors concluded that most penetrating corneal grafts for Fuchs dystrophy or PACE remain clear at 10 years, although the risk for failure is greater for graft recipients with PACE.

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Teleophthalmology and Age-Related Macular Degeneration

Li and colleagues evaluate teleophthalmology as a tool for the screening and monitoring of neovascular age-related macular degeneration. In a randomized clinical trial, patients received either routine clinical assessment and diagnostic imaging at a retina clinic or an examination and diagnostic imaging at a teleophthalmologic site, where patient information and imaging studies were acquired and electronically sent to retina specialists. Patients in the teleophthalmologic group were called back to the retina specialists if the teleophthalmologic data set suggested pathology or was inconclusive. For neovascular age-related macular degeneration monitoring, the average recurrence to treatment time was −13.5 days (95% CI, −18.2 to −9.0 days; P < .01) shorter for the routine group (0.04 days) compared with the teleophthalmologic group, without a difference identified between end-of-study visual acuities in the 2 groups (P = .99). The data suggest that teleophthalmology has the potential to reduce costs and inconveniences associated with frequent patient visits.

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Risk Factors for Developing Thyroid-Associated Ophthalmopathy

Because little is known about factors that may increase the risk for developing thyroid-associated ophthalmopathy, Stein and colleagues identify risk factors associated with the development of thyroid-associated ophthalmopathy in a longitudinal cohort study among beneficiaries 18 years or older with newly diagnosed Graves disease who were continuously enrolled in a large nationwide US managed care network and who visited an eye care professional 1 or more times from 2001 to 2009. Of 8404 patients who met the inclusion criteria, 740 (8.8%) developed thyroid-associated ophthalmopathy. After adjustment for potential confounders, surgical thyroidectomy, alone or in combination with medical therapy, was associated with a 74% decreased hazard for ophthalmopathy (adjusted hazard ratio, 0.26 [95% CI, 0.12-0.51]) compared with radioactive iodine therapy alone. Statin use (for 260 days in the past year vs <60 days or nonuse) was associated with a 40% decreased hazard (adjusted hazard ratio, 0.60 [CI, 0.37-0.93]). The authors noted the need for a prospective study to substantiate these findings and to assess whether statin use or a thyroidectomy may delay or prevent ophthalmopathy in these patients.

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Predictors of Referral-Warranted Retinopathy of Prematurity

Recognizing that detection of treatment-requiring retinopathy of prematurity (ROP) involves serial eye examinations, Ying and colleagues for the e-ROP Cooperative Group determine predictive factors for the development of referral-warranted ROP. In a secondary analysis of data from a multicenter observational cohort study of 979 infants with a birth weight of less than 1251 g, the presence of preplus disease, stage 2 ROP, retinal hemorrhage, and the need for ventilation at time of first study-related eye examination were strong independent predictors for referral-warranted ROP when controlling for very low birth weight and prematurity. These predictors may help identify infants in need of timely eye examinations.