

The Cornea

- Chang J-H, Garg NK, Lunde E, et al: Corneal neovascularization: an anti-VEGF therapy review. *Surv Ophthalmol* 57:415, 2012. [A review of the pathologic basis for the application of VEGF antagonists to prevent and treat corneal neovascularization.]
- Elhalis H, Azizi B, Jurkunas UV: Fuchs endothelial dystrophy. *Ocul Surf* 8:173, 2010. [Fuchs endothelial dystrophy is a major indication for corneal transplant. This review summarizes the molecular basis for this chronic condition.]
- Sugar J, Macsai MS: What causes keratoconus? *Cornea* 31:716, 2012. [Keratoconus is a common indication for corneal transplant. The authors review the genetic and environmental influences on the pathogenesis of this condition.]
- Weiss JS, Møller HU, Lisch W, et al: The IC3D classification of the corneal dystrophies. *Cornea* 27:S1, 2008. [This paper summarizes the work of an international committee that proposed a classification of corneal dystrophies on the basis of the molecular pathogenesis and reconciled these molecular findings to phenotypic manifestations of these conditions.]

Glaucoma

- Elhawry E, Kamthan G, Dong CQ, et al: Pseudoexfoliation syndrome, a systemic disorder with ocular manifestations. *Hum Genom* 6:1, 2012. [A review of the molecular pathogenesis of this form of open angle glaucoma and a discussion of the systemic nature of this condition.]
- Fingert JH: Primary open angle glaucoma genes. *Eye* 25:587, 2011. [A comprehensive review of the molecular genetics of primary open angle glaucoma.]

The Uvea

- Abdel-Rahman MH, Christopher BN, Faramawi MF, et al: Frequency, molecular pathology and potential clinical significance of partial chromosome 3 aberrations in uveal melanoma. *Mod Pathol* 24:954, 2011. [This paper summarizes the application of cytogenetics to prognostication in uveal melanoma.]
- Butler NJ, Thorne JE: Current status of HIV infection and ocular disease. *Curr Opin Ophthalmol* 23:517, 2012. [This review summarizes the relationship between HIV infection and ocular inflammation, especially retinitis and uveitis.]
- Harbour JW: The genetics of uveal melanoma: an emerging framework for targeted therapy. *Pigment Cell Melanoma Res* 25:171, 2012. [The molecular genetics of uveal melanoma and therapeutic strategies based on molecular pathogenesis.]
- Onken MD, Worley LA, Char DH, et al: Collaborative ocular oncology group report number 1: prognostic validation of a multi-gene prognostic assay in uveal melanoma. *Ophthalmology* 119:1596, 2012. [This is a description of a multi-center study to test the validity of

a gene expression profile for the prognostication of patient with primary uveal melanoma.]

The Retina

- Antonetti DA, Klein R, Gardner TW: Mechanisms of disease: diabetic retinopathy. *New Eng J Med* 366:1227, 2012. [This is an outstanding and comprehensive review of the pathogenesis of diabetic retinopathy.]
- Daiger SP, Bowne SJ, Sullivan LS: Perspective on genes and mutations causing retinitis pigmentosa. *Arch Ophthalmol* 125:151, 2007. [This is a review of the molecular genetics of the various conditions that are clustered under the rubric of "retinitis pigmentosa"]
- Dimaras H, Kimani K, Dimba EOA, et al: Retinoblastoma. *Lancet* 379:1436, 2012. [This is a comprehensive review of retinoblastoma: the clinical manifestations, molecular pathogenesis, pathology, and treatment strategies.]
- Chan C-C, Rubenstein JL, Coupland SE, et al: Primary vitreoretinal lymphoma: a report from an international primary central nervous system lymphoma collaborative group symposium. *Oncologist* 16:1589, 2011. [This is an excellent and comprehensive description of primary retinal lymphoma including the pathology of this condition.]
- Lim LS, Mitchell P, Seddon JM, et al: Age-related macular degeneration. *Lancet* 379:1728, 2012. [This is an excellent and comprehensive review of age-related macular degeneration including the pathogenesis of this condition and the pathologic basis of molecular therapy.]
- Rivera JC, Sapienza P, Joyal J-S, et al. *Neonatology* 100:343, 2011. [This is a comprehensive review of the pathogenesis of retinopathy of prematurity.]

The Optic Nerve

- Bernstein SL, Johnson MA, Miller NR: Nonarteritic anterior ischemic optic neuropathy (NAION) and its experimental models. *Prog Retin Eye Res* 30:167, 2011. [Although this paper deals with non-arteritic AION, the pathogenesis of optic nerve damage is described in detail.]
- Chang EE, Goldberg JL: Glaucoma 2.0: neuroprotection, neuroregeneration, neuroenhancement. *Ophthalmology* 119:979, 2012. [Most attention in the past has been directed to addressing elevations in intraocular pressure in the pathogenesis and treatment of glaucoma. This review article highlights a critical re-examination of the pathogenesis of optic nerve disease: the prevention of damage through neuroprotection and the means to evoke adaptive responses within the nerve to damage.]
- Newman NJ: Treatment of hereditary optic neuropathies. *Nat Rev Neurol* 8:545, 2012. [This comprehensive review focuses on Leber hereditary optic neuropathy and approaches to understanding the sequelae of mitochondrial dysfunction.]
- Pau D, Al Dubidi N, Yalamanchili S, et al: Optic Neuritis. *Eye* 25:833, 2011. [This review provides an update on the association (or lack thereof) between optic neuritis and multiple sclerosis.]