Abstracts

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Ranibizumab and Bevacizumab for Treatment of Neovascular Age-related
Macular Degeneration: Two – Year Results
Comparison of Age – related Macular Degeneration Treatments Trials (CATT) Research Group

Martin DF, Maguire MG, Fine SL, Ying G, Jaffe GJ, Grunwald JE, Toth C, Redford M, Ferris FL
Ophthalmology 2012; 119: 1388-98.

The multicenter, randomized Comparison of Age-related Macular Degeneration Treatments Trial (CATT) has demonstrated that ranibizumab and bevacizumab have similar effects on visual acuity after a 2-year period. Investigators with the CATT Research Group reported that mean gains in visual acuity at 2 years were within 1.4 letters, and the difference in vision averaged over the 2-year period was 0.7 letters. In addition, at 2 years, as-needed dosing of either drug produced 2.4 letters less mean gain than monthly dosing, with the greatest difference – 3.8 letters – between ranibizumab monthly and bevacizumab as needed. Both drugs also substantially and immediately reduced fluid in or under the retina. Finally, the rates of death, myocardial infarction, and stroke did not differ between drugs during the 2-year study period, although the imbalance seen in adverse events favoringranibizumab at 1 year persisted at year 2. Given these findings, the authors note the choice of drug and dosing regimen must be weighed against the effects on vision, potential for adverse events and the 40-fold difference in per-dose cost between ranibizumab and bevacizumab.

A Twenty-Year Follow-up Study ofTrabeculectomy: Risk Factors and Outcomes

Landers J, Martin K, Sarkies N, Bourne R, Watson P,
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This retrospective cohort studystudy was undertaken to determine the performance of trabeculectomy surgery over a 20-year period and examine the associations between outcome and risk factors for trabeculectomy failure. A total of 234 patients (330 procedures) who had undergone trabeculectomy surgery at Addenbrooke's Hospital, Cambridge, United Kingdom, between January 1988 and December 1990 were identified through surgical logbooks (521 procedures on 380 patients); after this, a case-note review was undertaken, which identified 234 patients (330 procedures) who had available case notes. Surgical success was defined as "complete success" when intraocular pressure (IOP) remained less than or equal to 21 mm Hg with no additional medication and as "qualified success" if those requiring additional opical medication were included. Functional success was defined if patients did not progress to legal blindness (visual acuity 3/60 or visual field 10 degrees).The results showed that after 20 years, 57% were classified as complete success, 88% were classified as qualified success, and 15% had become blind. Those at risk of trabeculectomy failure were younger or had uveitic glaucoma. Those with pseudoexfoliation or aphakia were more likely to progress to blindness. Furthermore, those using 2 or more topical medications or with advanced visual field loss at the time of surgery were more atrisk of both trabeculectomy failure and blindness. This study concluded that trabeculectomy survival at 20 years may be approximately 60% with no topical medication and approximately 90% with additional topical medication. Patient age, preoperative topical medication use, glaucoma type, and glaucoma severity will independently influence this outcome. Trabeculectomy surgery is therefore a long-term solution to IOP control.

Early Experience with the Femtosecond Laser for Cataract Surgery

Bali SJ, Hodge C, Lawless M, Roberts TV, Sutton G,
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This prospective, consecutive cohort study was done to report the intraoperative complications and to evaluate the learning curve with femtosecond laser cataract surgery (LenSx laser system by Alcon LenSx Lasers Inc., Aliso Viejo, CA).The first 200 eyes undergoing femtosecond laser cataract surgery and refractive lens exchange at Vision Eye Institute, USA

between April 2011 and June 2011 by 6 surgeons were included in this study. These cases underwent anterior capsulotomy, lens fragmentation, and corneal incisions with the femtosecond laser. The procedure was completed by phacoemulsification and insertion of an intraocular lens. Data were collected about patient demographics, preoperative investigations and intraoperative complications. The cases were divided into 4 groups-group 1 included the first 50 cases, group 2 included cases 51 through 100, group 3 included cases 101 through 150, and group 4 included cases 151 through 200-and were analyzed. Main outcome measure was intraoperative complication rate. The mean age of patients included were 69.2 ± 9.8 years. Of the 200 eyes, 74.5% underwent a complete procedure of laser capsulotomy, lens fragmentation, and corneal incisions. Five eyes had suction breaks during the laser procedure that led to the remainder of the laser procedure being aborted. Twenty – one (10.5%) eyes showed the presence of small anterior capsular tags. The number of eyes with free-floating capsulotomies was 35 (17.5%). The other complications during the study were anterior radial tears (n = 8; 4%), posterior capsular ruptures (n = 7; 3.5%), and dropped nucleus (n = 4; 2%). A significant difference was noted among the sequential groups with respect to the number of docking attempts ($P < 0.001$), miosis after the laser procedure ($P < 0.001$), and free – floating capsulotomies ($P < 0.001$), suggesting an improving learning curve. The surgeons with prior experience with femtosecond lasers had fewer complications in the first 100 cases ($P < 0.001$). No difference in complications was observed after the initial 100 cases. In this case series, there was a clear learning curve associated with the use of femtosecond lasers for cataract surgery. Adjustment to surgical technique and prior experience with a femtosecond laser seemed to flatten the learning curve.