Abstracts

Edited By Dr. Qasim Lateef Chaudhry

Vitrectomy with Internal Limiting Membrane Peeling versus No Peeling for Idiopathic Full-Thickness Macular Hole

Cornish KS, Lois N, Scott NW, Burr J, Cook J, Boachie C, Tadayoni R, Cour M, Christensen U, Kwok AKH
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Kurt et al conducted a Systematic review and individual participant data (IPD) meta-analysis under the auspices of the Cochrane Eyes and Vision Group to determine whether internal limiting membrane (ILM) peeling improved anatomic and functional outcomes of full-thickness macular hole (FTMH) surgery when compared with the no-peeling technique. Only randomized controlled trials (RCTs) were included in this study. All Patients with idiopathic stage 2, 3, and 4 FTMH undergoing vitrectomy with or without ILM peeling and gas endotamponade were enrolled. Primary outcome was best-corrected distance visual acuity (BCdVA) at 6 months postoperatively. Secondary outcomes were BCdVA at 3 and 12 months; best-corrected near visual acuity (BCnVA) at 3, 6, and 12 months; primary (after a single surgery) and final (after > 1 surgery) macular hole closure; need for additional surgical intervenetions; intraoperative and postoperative complications; patient-reported outcomes (PROs) (EuroQol-5D and Vision Function Questionnaire-25 scores at 6 months); and cost-effectiveness. Four RCTs were identified and included in the review. All RCTs were included in the meta-analysis; IPD were obtained from 3 of the 4 RCTs. No evidence of a difference in BCdVA at 6 months was detected (mean difference, −0.04; 95% confidence interval [CI], −0.12 to 0.03; P = 0.27); however, there was evidence of a difference in BCdVA at 3 months favoring ILM peeling (mean difference, −0.09; 95% CI, −0.17 to −0.02; P = 0.02). There was evidence of an effect favoring ILM peeling with regard to primary (odds ratio [OR], 9.27; 95% CI, 4.98–17.24; P < 0.00001) and final macular hole closure (OR, 3.99; 95% CI, 1.63 – 9.75; P = 0.02) and less requirement for additional surgery (OR, 0.11; 95% CI, 0.05 – 0.23; P < 0.00001), with no evidence of a difference between groups with regard to intraoperative or postoperative complications or PROs. The ILM peeling was found to be highly cost-effective. The authors concluded that available evidence supports ILM peeling as the treatment of choice for patients with idiopathic stage 2, 3, and 4 FTMH.

Collaborative Retrospective Macula Society Study of Photodynamic Therapy for Chronic Central Serous Chorioretinopathy

Lim JI, Glassman AR, Aiello LP, Chakravarthy U, Flaxel CJ, Spaide RF
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Jennifer et al did a retrospective case series to assess the visual and anatomic outcomes of central serous chorioretinopathy (CSC) after verteporfin photodynamic therapy (PDT). Members of the Macula Society were surveyed to retrospectively collect data on PDT treatment for CSC. Patient demographic information, PDT treatment parameters, fluorescein angiographic information, optical coherence tomography (OCT) metrics, pre- and post-treatment visual acuity (VA), and adverse outcomes were collected online using standardized forms. The Main Outcome Measures were Visual acuities over time and presence or absence of sub retinal fluid (SRF). Data were submitted on 265 eyes of 237 patients with CSC with a mean age of 52 (standard deviation [± 11]) years; 61 were women (26%). Mean baseline logarithm of the minimum angle of resolution (logMAR) VA was 0.39 ± 0.36 (20/50). Baseline VAs were ≥ 20/32 in 115 eyes (43%), 20/40 to 20/80 in 97 eyes (37%), and ≤ 20/100 in 47 eyes (18%). Normal fluence was used for PDT treatment in 130 treatments (49%), half-fluence was used in 128 treatments (48%), and very low fluence or missing information was used in 7 treatments (3%). The number of PDT treatments was 1 in 89%, 2 in 7%, and 3 in 3% of eyes. Post-PDT follow-up ranged from 1 month to more than 1 year. Post-PDT VA was correlated with baseline VA (r = 0.70, P < 0.001). Visual acuity improved ≥3 lines in < 1%,

29%, and 48% of eyes with baseline VA ≥ 20/32, 20/40 to 20/80, and ≤ 20/100, respectively. Sub retinal fluid resolved in 81% by the last post PDT visit. There was no difference in the response to PDT when analyzed by age, race, fluence setting, fluorescein angiography (FA) leakage type, corticosteroid exposure, or fluid location (sub retinal or pigment epithelial detachment; all P > 0.01). Complications were rare: Retinal pigment epithelial atrophy was seen in 4% of patients, and acute severe visual decrease was seen in 1.5% of patients. The authors concluded that Photodynamic therapy was associated with improved VA and resolution of SRF. Adverse side effects were rare.

Antibiotic Choice for the Prophylaxis of Post-Cataract Extraction Endophthalmitis

Rudnisky CJ, Wan D, Weis E
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Christopher et al conducted this case control study to determine the 8-year incidence of endophthalmitis after cataract surgery and to determine which surgical practices were associated with higher rates of endophthalmitis. A total of 75 318 eyes undergoing cataract extractions, performed by 26 different surgeons at 4 public hospitals and 5 nonhospital surgical facilities were included. Cases of endophthalmitis were acquired using a detailed, prospectively designed demographic database. Controls were tabulated using volume data available from the provincial health care system. The primary outcome was the development of endophthalmitis. A total of 23 cases (13 with culture-positive results) of postoperative endophthalmitis occurred, yielding an overall 8 year incidence of 0.03%. The incidence of endophthalmitis varied between surgeons from 0% to 0.20%. Two surgeons had higher rates than the rest of the group: 1 high-volume surgeon (1059.4 ± 231.9 mean cases per year) with an incidence of 0.08% (n = 7; P = 0.004) and 1 low – volume surgeon (123.5 ± 44.8 mean cases per year) with an incidence of 0.20% (n = 2; P = 0.002). On univariate analysis, the rate of endophthalmitis was not influenced by the use of intracameral (0.898) or sub conjunctival antibiotics (0.331), whereas the use of moxifloxacin was associated with a lower rate of endophthalmitis (P = 0.029). Surgery at 1 private facility (P = 0.046) and the use of timolol at the end of the procedure (P = 0.007) were associated with a higher rate of endophthalmitis. Multivariate analysis demonstrated that the odds of endophthalmitis was lower if a second-generation (P = 0.02) or fourth generation (P = 0.008) fluoroquinolone antibiotic was used after surgery. In contrast, the odds of endophthalmitis occurring was higher if timolol (P = 0.0002) was used at the end of the procedure or if the surgery was performed at one of the private facilities (P = 0.009). In conclusion the rate of endophthalmitis was lower if a fluoroquinolone was used after surgery. In contrast, endophthalmitis was more likely to occur if timolol was used at the end of the procedure.

Collagen Cross-Linking in Progressive Keratoconus; Three Year Results

Wittig-Silva C, Chan E, Islam FMA, Wu T, Whiting M, Snibson GR
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Three year results to report the refractive, topographic, and clinical outcomes after corneal collagen cross linking (CXL) in eyes with progressive keratoconus in this prospective, randomized controlled trial were published by Christine et al. One hundred eyes with progressive keratoconus were randomized into the CXL treatment or control groups. Cross-linking was performed by instilling riboflavin 0.1% solution containing 20% dextran for 15 minutes before and during the 30 minutes of ultraviolet Air radiation (3 mW/cm^2). Follow-up examinations were arranged at 3, 6, 12, 24, and 36 months. The primary outcome measure was the maximum simulated keratometry value (Kmax). Other outcome measures were uncorrected visual acuity (UCVA; measured in logarithm of the minimum angle of resolution [logMAR] units), best spectacle – corrected visual acuity (BSCVA; measured in logMAR units), sphere and cylinder on subjective refraction, spherical equivalent, minimum simulated keratometry value, corneal thickness at the thinnest point, endothelial cell density, and intraocular pressure. The results from 48 control and 46 treated eyes were reported. In control eyes, Kmax increased by a mean of 1.20 ± 0.28 diopters (D), 1.70 ± 0.36 D, and 1.75 ± 0.38 D at 12, 24, and 36 months, respectively (all P < 0.001). In treated eyes, Kmax flattened by 0.72 ± 0.15 D, 0.96 ± 0.16 D, and 1.03 ± 0.19 D at 12, 24, and 36 months, respectively (all P < 0.001). The mean change in UCVA in the control group was + 0.10 ± 0.04 logMAR (P ¼ 0.034) at 36 months. In the treatment group, both UCVA (0.150.06 logMAR; P 0.009) and BSCVA (0.090.03 logMAR; P ¼

0.006) improved at 36 months. There was a significant reduction in corneal thickness measured using computerized video keratography in both groups at 36 months (control group: 17.013.63 mm, P < 0.001; treatment group: 19.525.06 mm, P < 0.001) that was not observed in the treatment group using the manual pachymeter (treatment group: þ 5.864.30 mm, P ¼ 0.181). The manifest cylinder increased by 1.17 ± 0.49D (P ¼ 0.020) in the control group at 36 months. There were 2 eyes with minor complications that did not affect the final visual acuity. In conclusion at 36 months, there was a sustained improvement in Kmax, UCVA, and BSCVA after CXL, whereas eyes in the control group demonstrated further progression.