Abstracts

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A Randomized Clinical Trial Comparing Methotrexate and Mycophenolate Mofetil for Noninfectious Uveitis

Rathinam SR, Babu M, Thundikandy R, Kanakath A, Nardone N, Esterberg E, Lee SM, Enanoria WTA, Porco TC, Browne EN, Weinrib R, Acharya NR
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Sivakumar et al compared the relative effectiveness of methotrexate and mycophenolate mofetil for noninfectious intermediate uveitis, posterior uveitis, or panuveitis in this multicenter, block - randomized, observer - masked clinical trial. Eighty patients with noninfectious intermediate, posterior, or panuveitis requiring corticosteroid - sparing therapy at Aravind Eye Hospitals in Madurai and Coimbatore, India were enrolled in this study. Patients were randomized to receive 25 mg weekly oral methotrexate or 1 g twice daily oral mycophenolate mofetil and were monitored monthly for 6 months. Oral prednisone and topical corticosteroids were tapered. Masked examiners assessed the primary outcome of treatment success, defined by achieving the following at 5 and 6 months: (1) ≤0.5+ anterior chamber cells, ≤0.5+ vitreous cells, ≤0.5+ vitreous haze and no active retinal/choroidal lesions in both eyes, (2) ≤10 mg of prednisone and ≤ 2 drops of prednisolone acetate 1% a day, and (3) no declaration of treatment failure because of intolerability or safety. Additional outcomes included time to sustained corticosteroid - sparing control of inflammation, change in best spectacle - corrected visual acuity, resolution of macular edema, adverse events, subgroup analysis by anatomic location, and medication adherence. Forty - one patients were randomized to methotrexate and 39 to mycophenolate mofetil. A total of 67 patients (35 methotrexate, 32 mycophenolate mofetil) contributed to the primary outcome. Sixty - nine percent of patients achieved treatment success with methotrexate and 47% with mycophenolate mofetil (P = 0.09). Treatment failure from adverse events or tolerability was not different by treatment arm (P = 0.99). There were no differences between treatment groups in time to corticosteroid - sparing control of inflammation (P = 0.44), change in best spectacle - corrected visual acuity (P = 0.68), or resolution of macular edema (P = 0.31).

The authors concluded that there was no statistically significant difference in corticosteroid - sparing control of inflammation between patients receiving methotrexate or mycophenolate mofetil. However, there was a 22% difference in treatment success favoring methotrexate.

Post-cataract Prevention of Inflammation and Macular Edema by Steroid and Nonsteroidal Anti-inflammatory Eye Drops a Systematic Review

Kessel L, Tendal B, Jørgensen KJ, DrMedSci, Erngaard D, Flesner P, Andresen JL, Hjortdal J.
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Line et al compared the efficacy of topical steroids with topical nonsteroidal anti-inflammatory drugs (NSAIDs) in controlling inflammation and preventing pseudophakic cystoid macular edema (PCME) after uncomplicated cataract surgery in patients undergoing uncomplicated surgery for age - related cataract. The authors performed a systematic literature search in Medline, CINAHL, Cochrane, and EMBASE databases to identify randomized trials published from 1996 onward comparing topical steroids with topical NSAIDs in controlling inflammation and preventing PCME in patients undergoing phacoemulsification with posterior chamber intraocular lens implantation for age - related cataract. Postoperative inflammation and pseudophakic cystoid macular edema was taken as main outcome measure. Fifteen randomized trials were identified. Postoperative inflammation was less in patients randomized to NSAIDs. The prevalence of PCME was significantly higher in the steroid group than in the NSAID group: 3.8% versus 25.3% of patients, risk ratio 5.35 (95% confidence interval, 2.94e9.76). There was no statistically significant difference in the number of adverse events in the 2 treatment groups. The authors found low to moderate quality of evidence that topical NSAIDs are more effective in controlling postoperative inflammation after cataract surgery.

They also concluded that topical NSAIDs are more effective than topical steroids in preventing PCME and the use of topical NSAIDs was not associated with an increased events thus recommending using topical NSAIDs to prevent inflammation and PCME after routine cataract surgery.

Cost Evaluation of Surgical and Pharmaceutical Options in Treatment for Vitreomacular Adhesions and Macular Holes

Chang JS, Smiddy WE
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Jonathan et al evaluated cost - effectiveness and cost utilities for treatment options for vitreomacular adhesions (VMAs) and full - thickness macular holes (MHs) in this Markov model of cost - effectiveness and utility. Outcomes of published clinical trials (index studies) of surgical treatment of VMAs and MHs and a prospective, multicenter clinical trial of pharmaceutical vitreolysis with intravitreal ocriplasmin with saline control were used to generate a model for costs of treatment and visual benefits. All techniques were assumed to result in a 2.5 - line visual benefit if anatomy was resolved. Markov analysis, with cost data from the Centers for Medicare and Medicaid Services, was used to calculate imputed costs for each primary treatment modality in a facility setting, with surgery performed in a hospital serving as the highest end of the range and nonfacility setting with surgery performed in an ambulatory surgery center serving as the lowest end of the range. Imputed costs of therapy, cost per line saved, cost per line - year saved, cost per quality - adjusted life years (QALYs) were taken as main outcome measure. When pars plana vitrectomy (PPV) was selected as the primary procedure, the overall imputed cost ranged from $5802 to $7931. The cost per line was $2368 to $3237, the cost per line - year saved was $163 to $233 and the cost per QALY was $5444 to $7442. If intravitreal injection of ocriplasmin was the primary procedure, the overall imputed cost was $8767 to $10 977. The cost per line ranged from $3549 to $4456, the cost per line - year saved was $245 to $307, and the cost per QALY was between $8159 and $10 244. If intravitreal saline injection was used as a primary procedure, the overall imputed cost was $5828 to $8098. The cost per line was $2374 to $3299, the cost per line - year saved was $164 to $227, and the cost per QALY was $5458 to $7583. The authors concluded that is a primary procedure, PPV was the most cost - effective therapy in this model. The other treatments had similar costs per QALY saved and compare favorably with costs of therapy for other retinal diseases.

Retinal Nerve Fibre Layer and Macular Thickness Analysis with Fourier Domain Optical Coherence Tomography in Subjects with a Positive Family History for Primary Open Angle Glaucoma

Rolle T, Dallorto L, Briamonte C, Penna RR
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This study was conducted to detect early structural changes of retinal nerve fibre layer (RNFL) and macular ganglion cell complex (GCC) in subjects with a positive family history for primary open angle glaucoma (POAG) using Fourier domain optical coherence tomography (FD-OCT) (RTVue-100). In this cross - sectional observational study First and second degree relatives of POAG patients, healthy subjects, and subjects with preperimetric glaucoma (PPG) without a family history for glaucoma, were enrolled. All participants underwent complete ophthalmic examination, visual field test and FD-OCT (RTVue-100) imaging. Average RNFL and GCC thicknesses were measured and a pattern analysis was applied to the GCC map. Analysis of variance (ANOVA), least significant difference post-hoc test, and multiple ANOVA were used. The final analysis included 271 eyes divided into several groups: 163 eyes of first and second degree relatives (85 healthy, 40 with ocular hypertension and 38 with PPG); and 108 eyes of subjects without a positive family history (60 healthy and 48 PPG). RNFL and GCC thickness values of these five groups were statistically different ($p<0.001$). RNFL superior, GCC average, GCC superior, and GCC inferior were found to be significantly thinner and the global loss volume was higher in normal relatives than in healthy subjects without a positive family history of POAG ($p=0.04$, $p=0.001$, $p=0.005$, $p=0.004$, $p=0.009$). RNFL and GCC thicknesses obtained by dividing the family members by the degree of consanguinity showed statistically significant thinning in siblings of glaucomatous subjects than in offspring. The authors concluded that the eyes of subjects with a positive family history for POAG have significantly thinner RNFL and GCC than normal eyes and a more accurate follow-up has to be performed.