RETINA ROUNDUP

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1. Sci Rep 2023(May); : 7428

EFFICACY AND SAFETY PROFILE OF INTRAVITREAL DEXAMETHASONE IMPLANT VERSUS ANTIVASCULAR ENDOTHELIAL GROWTH FACTOR TREATMENT IN DIABETIC MACULAR EDEMA: A SYSTEMATIC REVIEW AND META-ANALYSIS.

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Abstract

To better understand the efficacy of intravitreal dexamethasone implant (Ozurdex) versus antivascular endothelial growth factor (anti-VEGF) treatment in patients with diabetic macular edema (DME). A systematic review and meta-analysis. The study included randomized control trials (RCTs) and non-randomized control trials (Non-RCTs) before December 2021 that compare the efficacy of Ozurdex-related therapyand anti-VEGF therapy. We searched PubMed, Cochrane Library, and EMBASE. The quality of the included studies was assessed carefully. 30 studies were included. Regarding BCVA change, the overall result revealed no significant differences between Ozurdex and anti-VEGF therapies in patients with nonresistant DME, but Ozurdex group had significantly more VA improvement than anti-VEGF therapies in patients with resistant DME (MD 0.12, 95% CI 0.02-0.21). In terms of central retinal thickness (CRT) decrease, there was a significant difference between Ozurdex therapy and anti-VEGF therapy in patients with nonresistant DME (MD 48.10, 95% CI 19.06-77.13) and resistant DME (MD 65.37, 95% CI 3.62-127.13). Overall, Ozurdex therapy resulted in significantly greater VA improvement and CRT decrease than anti-VEGF therapy in resistant DME patients. Ozurdex therapy was not inferior to anti-VEGF therapy in patients with nonresistant DME.

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2. Retina ; October 2022

INCIDENCE AND RISK FACTORS FOR DELAYED RETINAL TEARS AFTER AN ACUTE, SYMPTOMATIC POSTERIOR VITREOUS DETACHMENT

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Abstract

PURPOSE: To determine the long-term incidence of and risk factors for delayed retinal tears after acute, symptomatic posterior vitreous detachment (PVD) without concurrent retinal tears. Design: Retrospective, observational case series. Subjects: Patients diagnosed with an acute, symptomatic PVD without concurrent retinal tears at a tertiary eye center between 2013 and 2018.

METHODS: This is a retrospective, consecutive, and observational case series. Acute and symptomatic PVD was defined as experiencing flashes or floaters for 1 month or less at the time of diagnosis. Patients with a retinal tear or detachment at or before the time of diagnosis were not included. The occurrence and timing of subsequent retinal tears after initial PVD diagnosis were recorded. The age, sex, race, refractive error, lens status, lattice degeneration status, and type of physician (retina specialist vs. nonretina specialist) who saw the patient were also recorded.

MAIN OUTCOME MEASURES: Time to the development of a delayed retinal tear.

RESULTS: A total of 389 eyes from 389 patients had acute and symptomatic PVDs without concurrent retinal tears or detachments at diagnosis. KaplaneMeier analysis showed that 7.39% of eyes developed delayed retinal tears by 6.24 years after initial PVD diagnosis. Of these

tears, 50% occurred within 4.63 months of PVD diagnosis, and 63.46% occurred within 1 year of PVD diagnosis. Cox-Mantel log-rank analysis showed that those who were younger (age < 60 years), myopic, or had lattice degeneration were more likely to develop tears. A multivariate Cox proportional-hazards models controlling for other significant risk factors supported lattice degeneration as a likely risk factor for delayed retinal tear.

CONCLUSIONS: This study demonstrates that 7.39% of patients with acute, symptomatic PVD without concurrent retinal tears develop delayed retinal tears by 6.24 years after PVD diagnosis, with many developing tears well after a typical 6-week follow-up time for PVD. Lattice degeneration is a significant risk factor for delayed tears. These findings can guide clinicians in establishing optimal follow-up protocols for patients with acute, symptomatic PVD.

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3. BMC Endocr Disord 2023(May); : 101

RETINAL MICROVASCULAR CHANGES IN DIABETIC PATIENTS WITH DIABETIC NEPHROPATHY.

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Abstract

BACKGROUND: To explore the characteristics of retina microvascular changes in patients with diabetic nephropathy (DN) and its risk factors.

METHODS: Retrospective, observational study. 145 patients with type 2 diabetic mellitus (DM) and DN were included in the study. Demographic and clinical parameters were obtained from medical records. Presence of diabetic retinopathy (DR), hard exudates (HEs) and diabetic macular edema (DME) were evaluated according to the color fundus images, optical coherence tomography (OCT) and fluorescence angiography (FFA).

RESULTS: DR accounted for 61.4% in type 2 DM patients with DN, of which proliferative diabetic retinopathy (PDR) accounted for 23.6% and sight threatening DR accounted for 35.7%. DR group had significantly higher levels of low-density lipoprotein cholesterol (LDL-C) ($p = 0.004$), HbA1c ($P = 0.037$), Urine albumin creatine ratio (ACR) ($p < 0.001$) and lower level of estimated glomerular filtration rate (eGFR) ($P = 0.013$). Logistic regression analysis showed DR was significantly associated with ACR stage ($p = 0.011$). Subjects with ACR stage3 had higher incidence of DR compared with subjects with ACR stage1 (OR = 24.15, 95%CI: 2.06-282.95). 138 eyes of 138 patients were analyzed for HEs and DME, of which 23.2% had HEs in posterior pole and 9.4% had DME. Visual acuity was worse in HEs group than in non-HEs group. There was significant difference in the LDL-C cholesterol level, total cholesterol (CHOL) level and ACR between HEs

group and non-HEs group.

CONCLUSIONS: A relatively higher prevalence of DR was found in type 2 DM patients with DN. ACR stage could be recognized as a risk factor for DR in DN patients. Patients with DN needs ophthalmic examination more timely and more frequently.

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4. Int Ophthalmol 2023 May 10

IS THERE ANY ASSOCIATION BETWEEN THE FREQUENCY OF WET AGE-RELATED MACULAR DEGENERATION RECURRENCES AND THE SEASONS OF THE YEAR?

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Abstract

PURPOSE: To investigate whether a seasonal distribution of the frequency of exudative age-related macular degeneration (wet AMD) recurrences exists.

METHODS: In total, 129 eyes with 171 recurrences in patients suffering from wet AMD were included in the study. All the patients had been treated with intravitreal anti-VEGF injections according to Pro Re Nata treatment regimen. Recurrence was defined as the re-detection of sub-retinal fluid, intraretinal fluid, and/or sub-macular hemorrhage in

optical coherence tomography scans, after at least two consecutive monthly examinations with a "dry" macula. The year was divided in three 4-month periods (zone A: June-September, zone B: October-January, and zone C: February-May) based on the weather conditions prevailing in each period. Mean temperature and hours of sunlight exposure were the main weather markers recorded.

RESULTS: Eighty-two recurrences (48%) occurred during the period June-September, 50 (29.2%) during the period October-January, and 39 (22.8%) during the period February-May (Chi-square = 17.5, $p < 0.001$). Among the groups, neither patients' age (78 ± 8 years A, 76 ± 7 years B, and 79 ± 8 years C, $p = 0.15$) nor gender status (40% men A, 36% men B, and 51% men C, $p = 0.35$) differed significantly. Mean temperature was 27.6 ± 1.8 °C, 15.1 ± 4.6 °C, and 16.5 ± 4.4 °C in zones A, B, and C, respectively. Hours (h) of sunlight exposure (average hours/month) were 344 ± 34 h, 188 ± 42 h, and 223 ± 57 h in zones A, B, and C.

CONCLUSION: We demonstrated that the frequency of wet AMD recurrences is significantly elevated during the warmer months, possibly due to the higher levels of UV radiation and mean temperature. Further research is necessary to validate our findings.

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5. Ophthalmol Retina. 2023 Apr;7(4):338-345

CENTRAL RETINAL VEIN OCCLUSION 36-MONTH OUTCOMES WITH ANTI-VEGF

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Abstract

PURPOSE: To analyze the 3-year outcomes in a broad population of patients starting VEGF inhibitors for central retinal vein occlusion (CRVO) in routine clinical practice.

DESIGN: Observational database study.

PARTICIPANTS: Overall, 527 treatment-naïve CRVO eyes that commenced VEGF inhibitors between December 1, 2010 and 2018 were tracked in the Fight Retinal Blindness! registry.

METHODS: Longitudinal models were used to plot changes in visual acuity (VA) and central subfield thickness (CST).

MAIN OUTCOME MEASURES: Mean change in VA from baseline to 36 months, injections, visits, completion, switching, and suspensions of therapy > 180 days at the final review.

RESULTS: Overall (527 eyes) mean VA change (95% confidence interval [CI]) was + 10 (7, 12) letters, 37% had final VA ≥ 70 and 30% ≤ 35 letters, mean CST changed −306 μm. Completers (257/527, 49%) had mean 36-month changes in VA and CST of + 12 letters and −324 μm with a median of 18 injections at 26 visits. The adjusted mean VA change was similar to each VEGF inhibitor (mean, + 11.4 letters) despite a greater reduction in CST with aflibercept (−310 μm) versus ranibizumab (−258 μm) versus bevacizumab (−216 μm; P < 0.001). Eyes with baseline VA that was trial-eligible (19–73 letters; 356/527, 68%) gained 7 letters, very poor (< 19 letters; 129/527, 24%) gained 22 letters, or very good (> 73 letters; 42/527, 8%) lost 7 letters. Switching (160/527, 30%) was most often to aflibercept (79 eyes). By using suspensions and discontinuation reasons, we identified similar proportions had ceased therapy (154/527, 29%) and were still receiving it at 36 months (165/527, 31%). Only 62/527 eyes (12%) had resolution of macular edema without treatment for > 6 months.

CONCLUSIONS: Patients with CRVO that commenced VEGF inhibitors in routine care for whom follow-up was available had VA improvements of around 12 letters at 3 years, but with > 50% lost to follow-up, the VA outcome for the entire group was likely worse. The

choice of VEGF inhibitor influenced CST but not VA outcomes. We estimated that around half of the eyes were still receiving injections after 36 months.

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