



SESSION: Updates on Retinal Vascular Diseases

DATE: September 3, 2023

HALL: HALL 1

TIME: 09.00–09:40

Moderator: Ivan Fišer, Vladimir Poposki

CME: traditional approaches still work

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In diabetic CME or in CME after branch or central retinal vein occlusion, intraocular anti-VEGF or steroid injections are now often used as primary treatment. However, multiple, often never-ending injections with the risk of tachyphylaxis can be avoided using focal laser or vitrectomy with ILM peeling. Case-reports of DME and CME in BRVO and CRVO will be presented with questions to the audience about the preferred treatment, and our solutions, i.e. treatment using focal laser or ILM peeling, will be demonstrated. Take home message: the treatment of CME should always be individualised. In DME, precise focal laser can bring a permanent benefit without the use of intraocular injections. ILM peeling can bring a similar benefit in both DME and post-RVO CME.

Keywords: Macular edema, focal laser, ILM peeling

Evaluation of bioclinical markers to predict short term response to intravitreal anti-VEGF in treatment-naive diabetic macular edema and the "Fried Egg" sign: a novel OCT feature

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Objective: To determine the incidence of suspended scattering particles in motion (SSPiM) and to assess baseline bioclinical markers in treatment-naive diabetic macular edema (DME) which can predict the short term response to intravitreal anti-VEGF.

Design: Prospective observational study.

Participants: Treatment-naive DME patients from January 2022 to June 2022 were included in the study.

Methods: Treatment-naive DME cases were included and followed up for three months. Best corrected visual acuity (BCVA), SSPiM, HbA1c levels, hyperreflective dots (HRD), sub retinal fluid (SRF), central subfoveal thickness (CSFT), optical density ratio (ODR) of the largest cyst near the fovea, type of cyst (uniformly hyperreflective or fragmented intracystic hyperreflectivity called "fried egg" sign) at baseline were studied to predict response to treatment after anti-VEGF.

Results: 123 eyes of 88 patients were included in the study. Incidence of SSPiM was 64.5%. The mean incidence of poor responders was 35%. BCVA, ODR, hyperreflective cysts and presence of SSPiM were not associated with response to anti-VEGF. Higher CSFT, SRF, higher number of HRD, presence of SSPiM in the outer nuclear layer (ONL) and outer plexiform layer (OPL) were associated with short term good response to anti-VEGF. High HbA1c and presence of "fried egg" sign in the hyperreflective cysts were associated with poor response.

Conclusion: Higher CSFT, SSPiM in the ONL and OPL, and higher HRD were associated with good response to anti-VEGF. High HbA1c and "fried egg" sign was associated with poor response to anti-VEGF. BCVA, presence of SSPiM and ODR were not associated with anti-VEGF response.

Keywords: SSPiM, Hyperreflective dots, optical density ratio

Long-term outcomes of intravitreal dexamethasone implant for the treatment of macular edema following surgical removal of epiretinal membranes

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Purpose: The aim of this study was to investigate the efficacy and safety of intravitreal dexamethasone implant (DEX) for the treatment of macular edema after pars plana vitrectomy (PPV) for epiretinal membrane (ERM) removal.

Setting/Venue: Sakarya University Medical Education and Research Hospital, Department of Ophthalmology

Methods: This retrospective study included 42 patients who were diagnosed with macular edema after PPV for ERM removal and who were treated with either intravitreal DEX (n=22) or were observed without intervention (n=20). Changes in best-corrected visual acuity (BCVA) and central macular thickness (CMT) were assessed 1, 6, and 12 months after treatment.

Results: Patients treated with intravitreal DEX showed significant improvement in BCVA and reduction in CMT at months 1, 6, and 12 after treatment, while patients in the control group did not show statistically significant improvement. The two groups differed significantly in terms of BCVA and CRT at all time points of the follow-up period, in favor of the DEX group. Twelve of the 22 patients treated with intravitreal DEX needed only one implant until month 12; ten of the patients needed 1 repeat injection of DEX. No serious adverse events were observed in any group.

Conclusions: Intravitreal DEX was found to be effective and safe for the treatment of macular edema after PPV for ERM removal. However, some eyes may require repeated injections to maintain the visual and anatomical outcome.

Keywords: Epiretinal membrane, intravitreal dexamethasone, macular edema

Does Epiretinal Membrane Affect Diabetic Macular Edema Treatment Results?

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Objective: To evaluate the effect of epiretinal membrane (ERM) on the results of intravitreal ranibizumab (IVR) injection in the treatment of diabetic macular edema (DME).

Material(s) and Method(s): Data of DME patients who treated with IVR injection between 2015 and 2019 were retrospectively analyzed. Patients diagnosed with DME divided into two groups according to presence of ERM; Group 1 consisted of 26 eyes with ERM, Group 2 consisted of 26 eyes without ERM. Best corrected visual acuity (BCVA) and central macular thickness (CMT) were analyzed and compared between the groups after three consecutive IVR injections.

Results: The mean age of patients were 71.5 ± 6.6 and 65.5 ± 7.7 years, respectively ($p:0.736$). The initial BCVA was 0.88 and 0.77 logMAR in groups, respectively ($p:0.430$). The initial CMT was 363.6 and 413 μ respectively ($p:0.153$). After three consecutive doses of IVR; BCVA was 0.70 and 0.59 logMAR, and CMT was 297.52 and 340 μ in groups respectively, ($p_1:0.043$ and $p_2:0.096$). CMT decreased significantly in both groups after IVR treatment ($p < 0.001$). While BCVA was significantly increased in Group 2 ($p < 0.008$), there was no significant improvement in Group 1 ($p = 0.082$).

Discussion: Although there was a significant decrease in CMT after IVR injection in DME patients with and without ERM, visual improvement was not significant in patients with ERM. The presence of ERM may adversely affect visual outcomes in the treatment of DME patients.

Keywords: macular edema, epiretinal membrane, ranibizumab

Foveal sparing ILM peeling in the treatment of the tractional diabetic macular edema

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Background

The rationale for vitrectomy with ILM peeling in tractional or non-tractional DME is to eliminate all potential tractional, inflammatory factors and the scaffold for epiretinal membrane recurrence. Nevertheless, macular atrophy or ganglion cell layer thinning with worse functional results can be a secondary effect of this approach, and both of these conditions are also made worse by diabetic macular neurodegeneration, which is linked to ganglion cell layer loss as well.

Purpose

To explore the effect of vitrectomy with foveal sparing ILM peeling in the treatment of tractional diabetic macular edema (tDME).

Methods

A pilot prospective, consecutive, observational study of 3 tDME cases. Best Corrected Visual Acuity (BCVA) in ETDRS letters and central macular thickness (CMT) and other OCT anatomical parameters were evaluated at baseline, 1st, 3rd and 6th month of follow-up. Baseline characteristics and safety outcomes were also analysed.

Results

The 3 cases were from type 2 diabetics with a mean age of 75 (± 6.6) years, a mean DME duration of 20.3 months and severe non-proliferative diabetic retinopathy. All the eyes were phakic. In two cases combined surgery was performed. Through the predefined timepoints, the mean CMT and BCVA were 498.0, 602.7, 559.7, 591.7 (± 117.2 , 184.5, 127.9, 123.5 μm) and 55, 48.3, 56.7, 58.3 (± 4.6 , 10.4, 5.8, 7.6), respectively. During the follow-up period, a marked distortion of inner retina correlated with the ILM foveal shrinkage was observed. Two eyes were treatment naïve and one had previous macular LASER, pan-retinal photocoagulation and intravitreal injections. No other safety occurrences were observed.

Conclusion

Although macular atrophy and GCL thinning may be aggravated with vitrectomy and ILM peeling procedures in tractional diabetic macular edema, the foveal sparing ILM peeling technique seems to potentiate retinal distortion induced by the shrinkage of the residual ILM, preventing edema regression.

Keywords: Foveal sparing internal limiting membrane peeling, vitrectomy, diabetic macular edema

Psychophysical changes due to visual loss in diabetic patients

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Introduction: Diabetic macular edema (DME) constitutes one of the main causes of visual impairment and avoidable blindness in the working-age population. Despite the advances, the associated morbidity is high. Quality of life (QoL) is a concept that represents individual responses to the physical, mental, and social effects that the disease produces in daily life.

Objective: To assess the QoL, to estimate the visual function index, and to determine their mutual influence in patients with moderate DME and severe DME.

Methods: Observational cross-sectional pilot study. 57 patients who met the inclusion criteria were recruited. Three groups of 19 patients each were formed: (I) severe DME; (II) Moderate DME and (III) control group with patients without diabetic ocular pathology. They were given two validated questionnaires to measure subjective functional impairment (visual and general). The two questionnaires were: the visual function loss index, VF-14, and a questionnaire that measures health-related QoL, SF-36. For the statistical analysis, the ANOVA test, the "Post Hoc Tests" Homogeneous Subsets and Multiple Comparisons, and the Pearson Coefficient were used to study the correlation between both questionnaires.

Results: Patients with severe DME have the worst score in Social Function, but also all other dimensions are significantly more affected, except for Emotional Role, which has worse results in moderate DME.

Conclusion: In DME the first to be affected is the Mental Component and then the Physical Component. Likewise, the degree of reduction in Visual Function conditions a worse QoL.

Keywords: Psychophysical changes, Quality of life (QoL), Diabetic Macular Edema (DME)