RETINA ROUNDUP

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1) Retina. 2022 Dec 1;42(12):2307-2314.

Drainage retinotomy is a risk factor for surgical failure after pars plana vitrectomy in patients with primary uncomplicated rhegmatogenous retinal detachment

Ohara, Hiromi; Yuasa, Yuki; Harada, Yosuke; Hiyama, Tomona; Sadahide, Ayako; Minamoto, Akira; Hirooka, Kazuyuki; Kiuchi, Yoshiaki

Purpose: To identify risk factors for recurrent retinal detachment after uncomplicated pars plana vitrectomy in patients with primary rhegmatogenous retinal detachment (RRD).

Methods: This single-center retrospective study included patients with primary RRD who underwent 23-gauge and 25-gauge pars plana vitrectomy at Hiroshima University Hospital between January 2016 and May 2021. All patients had ≥3 months of follow-up. Patients were excluded if they had preoperative proliferative vitreoretinopathy worse than Grade C1; giant retinal tears; tractional, exudative, or traumatic retinal detachment; or the use of perfluorocarbon liquid. Factors that influenced RRD treatment outcome and postoperative complications were evaluated.

Results: We analyzed 519 eyes of 509 patients who underwent pars plana vitrectomy for primary RRD. The primary and final success rates were 93.8% and 99.8%, respectively. Drainage retinotomy was a risk factor for surgical failure in both multivariate analysis (odds ratio 2.36, 95% confidence interval 1.08–5.15, $P = 0.0314$) and a propensity score-matching analysis (odds ratio 3.20, 95% confidence interval 1.14–9.04, $P = 0.0277$). Postoperative epiretinal membrane was associated with drainage retinotomy in multivariate analysis (odds ratio 1.93, 95% confidence interval 1.04–3.57, $P = 0.0358$).

Conclusion: The avoidance of drainage retinotomy during small-gauge pars plana vitrectomy in patients with RRD may lead to better surgical success and less frequent epiretinal membrane formation.

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2) Am J Ophthalmol. 2022 Dec;244:30-37.

Vigorous Physical Activity as a Risk Factor for Central Serous Chorioretinopathy

Felice Cardillo Piccolino [1], Daniela Fruttini [2], Chiara Eandi [3], Massimo Nicolò [4], Cesare Mariotti [5], Silvia Tito [6], Marco Lupidi [7]

Purpose: To evaluate whether frequent vigorous physical activity (PA) is significantly associated with active central serous chorioretinopathy (CSCR) and may represent a risk factor for CSCR.

Design: Case-control study.

Methods: This was a multicenter study. The patient population comprised consecutive patients with active CSCR and a comparable control group of healthy participants. Both groups were interrogated about their PA using a shortened version of the International Physical Activity Questionnaire. The Ainsworth Compendium of Physical Activities was taken as a reference for the activities requiring vigorous effort and to quantify the energy expended, expressed in metabolic equivalent of task (MET). As a main outcome measure, a moderate/high practice of vigorous PA was opposed to an absent/low practice of vigorous PA in the 2 groups.

Results: A total of 105 patients with CSCR and 105 healthy controls were included in the study. Moderate/high vigorous PA was observed in 63.5% of the patients with CSCR and in 26% of the controls (P = .0001). The MET values of vigorous PA were 2173.2 ± 2081.5 in the CSCR group and 1216.3 ± 524 in the control group (P = .029). The potential risk of disease associated with moderate/high vigorous PA was 5.58 (odds ratio; 95% confidence interval 3.01-10.69, P = .0001).

Conclusions: This study demonstrates a significant association of vigorous PA with CSCR, indicating an increased probability of disease by 5.58 times. Frequent and intense PA, with the hypertensive episodes that it entails, can break the precarious hemodynamic balance in the choroid of individuals predisposed to CSCR, thereby favoring choroidal vascular decompensation and active disease.

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3) Case Rep Ophthalmol. 2022 Nov 17;13(3):885-891.

Surgical Approaches to Optic Disc Pit Maculopathy: A Clinical Case Series

Rosa Lomelino Pinheiro 1, Filipe Henriques 1, João Figueira 1 2, Mário Alfaiate 1, Joaquim Neto Murta 1 2

Purpose: To compare the clinical outcomes of 13 patients with optic disc pit maculopathy (ODP-M) - progressive visual loss, serous macular detachment, and/or intraretinal fluid - who underwent different surgical approaches.

Design: Retrospective study

Methods: This study includes consecutive sample of 13 patients aged 13-74 years (mean 35.38 ± 19.66 years) diagnosed with ODP-M and submitted to vitreoretinal surgery between 2005 and 2021. All patients underwent pars plana vitrectomy, posterior hyaloid detachment, and gas tamponade. Endolaser photocoagulation was applied to the temporal margin of the optic disc in 8 cases; internal limiting membrane (ILM) peeling was performed in 9 cases; and ILM inverted flap technique in 5 cases. Stuffing of the pit with an ILM flap was performed in 3 cases. Mean best-corrected visual acuity improved from 20/200 (1.04 ± 0.56 LogMAR) to 20/50 (0.43 ± 0.54 LogMAR) within 4-36 months.

Results: Central retinal thickness decreased from 587.5 ± 158.01 μm to 253.9 ± 33.55 μm, and 7 out of 10 patients had complete resolution of intraretinal fluid. All patients had complete retinal reattachment; however, a few years after surgery, 4 patients had recurrence of serous retinal detachment. The only adjunctive technique associated with greater visual improvement was endolaser ($p = 0.033$) and not performing peeling of the ILM was also associated with better visual results ($p = 0.013$), independently of preoperative visual acuity or age at the time of surgery. None of the adjunctive procedures was a significant predictor of better anatomical outcomes.

Conclusions: All of these approaches for the surgical management of ODP-M were safe and effective. In this study, vitrectomy with endolaser was a good option for management of ODP-M.

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4) BMC Ophthalmol 22, 476 (2022) December 2022

Annular choroidal detachment following intravitreal aflibercept injection in a patient with nivolumab treatment: a case report

Maho Sato 1 2, Hirohisa Kubono 3, Kazuya Yamashita 3, Takashi Nagamoto 3, Yoshiko Ofuji 3, Saki Sakakura 3, Ryuki Fukumoto 3, Seiichiro Hata 4, Mari Kawamura 3, Kotaro Suzuki 3

Background

To present a novel case that developed annular choroidal detachment after intravitreal anti-vascular endothelial growth factor antibody injection in a patient after immune checkpoint inhibitor treatment.

Case presentation

A 58-year-old Japanese man presented visual impairment in the right eye. Ophthalmological examination revealed macular edema in the right eye, which suggested the possibility of age-related macular degeneration. Following the intravitreal aflibercept injection, the annular choroidal detachment was observed in the injected eye. As hypotony or thick sclera was not observed, choroidal detachment seemed to have appeared due to enhanced inflammation by intravitreal injection. The patient had a history of stage IV paranasal cavity cancer and was treated with nivolumab, an immune checkpoint inhibitor. The immune response might have been enhanced due to the use of nivolumab so that intravitreal injection triggered inflammation. Three weeks after sub-tenon injection of triamcinolone acetonide, macular edema and choroidal detachment improved.

Conclusions: Intravitreal aflibercept injection caused annular choroidal detachment in our patient, presumably because the immune system was activated after nivolumab treatment. To the best of our knowledge, this is the first case report of annular choroidal detachment that developed after intravitreal injection in a patient with a history of nivolumab therapy. With the increasing use of immune checkpoint inhibitors in patients with various cancers, clinicians should be aware of these potentially associated immune-related adverse events.

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5) Front Pharmacol. 2022 Nov 18;13:1017889.

Ocular adverse events associated with anti-VEGF therapy: A pharmacovigilance study of the FDA adverse event reporting system (FAERS)

Pan Ma 1, Xinmei Pan 1, Ruixiang Liu 1, Ya Qu 2, Linli Xie 1, Jiangchuan Xie 1, Liya Cao 1, Yongchuan Chen 1

Background: The purpose of this study is to identify and characterize ocular adverse events (AEs) that are significantly associated with anti-VEGF drugs for treatment of neovascular age-related macular degeneration and compare the differences between each drug, and provide clinical reference.

Methods: Ocular AEs submitted to the US Food and Drug Administration were analyzed to map the safety profile of anti-VEGF drugs. The Pharmacovigilance tools used for the quantitative detection of signals were reporting odds ratio and bayesian confidence propagation neural network.

Results: A total of 10,608,503 AE reports were retrieved from FAERS, with 20,836 for ranibizumab, 19,107 for aflibercept, and 2,442 for brolucizumab between the reporting period of Q1, 2004 and Q3, 2021. We found and analyzed the different AEs with the strongest signal in each drug-ranibizumab-macular ischaemia (ROR = 205.27, IC-2SD = 3.70), retinal pigment epithelial tear (ROR = 836.54, IC-2SD = 7.19); aflibercept-intraocular pressure increased (ROR = 31.09, IC-2SD = 4.61), endophthalmitis (ROR = 178.27, IC-2SD = 6.70); brolucizumab-retinal vasculitis (ROR = 2930.41, IC-2SD = 7.47) and/or retinal artery occlusion (ROR = 391.11, IC-2SD = 6.10), dry eye (ROR = 12.48, IC-2SD = 2.88).

Conclusion: The presence of AEs should bring clinical attention. The use of anti-VEGF drugs should be based on the patient's underlying or present medical condition to reduce any adverse event associated with the treatment.

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