Visual field defect

Hemianopsia.

Quadrantanopsia.

Etiology

Lesions in the occipital lobe, because of the proximity to the visual cortex and incoming subcortical tracts, may be associated with a risk of visual field defects.

Visual field defects (VFDs) due to optic radiation (OR) injury are a common complication of temporal lobe surgery.

The type of field defect can help localize the lesion.

Visual field defects (VFDs) negatively affect activities of daily living and rehabilitation following aneurysmal subarachnoid hemorrhage (aSAH).

Findings obtained with the Octopus 900 perimeter (Haag-Streit Inc, Koenic, Switzerland), the Goldmann perimeter (Haag-Streit Inc, Bern, Switzerland), or the confrontation visual field test on admission and 3 days, 14 days, 2 to 4 months, and 6 months postoperatively were assigned to 16 classes. Associations between post-chiasmal VFDs and relevant clinical, radiological, and demographic data were analysed with uni- and multivariate logistic regression.

Of 105 survivors at 6 months, 20 (19 %) had VFDs occurring for aneurysm- or operation-related reasons; homonymous hemianopias or quadrantanopias were the most common finding, occurring in 16 patients (15 %). Posterior ischaemic optic neuropathy presented in two patients (2 %). Ten survivors (10 %) no longer fulfilled visual field requirements for driving licences. Significant associations emerged between VFDs at 6 months and the Hunt and Hess (H&H), World Federation of Neurosurgical Societies (WFNS), and Fisher grades on admission, presence of Intracerebral hemorrhage (ICH), hydrocephalus, or postoperative infarction, and higher modified Rankin Scale scores at 6 months. Multivariate logistic regression showed the H&H grade and presence of ICH to independently predict VFDs.

Assessing VFDs is advisable, especially among patients with poor-grade aSAH (H&H grade IV or V) and ICH $^{1)}$.

Visual field defect from ophthalmic artery aneurysm

see Visual field defect from ophthalmic artery aneurysm.

Diagnosis

Visual field defect diagnosis.

Prevention

Visual field defects (VFDs) due to optic radiation (OR) injury are a common complication of temporal lobe surgery.

Display of the optic radiation with image guidance reduces the severity of VFD and did not affect seizure outcome or hippocampal resection. Correction for brain shift is possible but did not further improve outcome. Future work to incorporate tractography into conventional neuronavigation systems will make the work more widely applicable ²⁾.

Case series

Forty patients were included in the study. Two patients failed to perform VFD testing. Humphrey Field Analyzer (HFA) perimetry was used as the gold standard test to detect VFDs. All patients performed a web-based visual field test called Damato Multifixation Campimetry Online (DMCO). A bedside confrontation visual field examination ad modum Donders was extracted from the medical records in 27/38 patients. All participants had a consultation by an ophthalmologist. A questionnaire described the subjective complaints. REULTS: A VFD in the upper guadrant was demonstrated with HFA in 29 (76%) of the 38 patients after surgery. In 27 patients tested ad modum Donders, the sensitivity of detecting a VFD was 13%. Eight patients (21%) had a severe VFD similar to a quadrant anopia, thus, questioning their permission to drive a car. In this group of patients, a VFD was demonstrated in one of five (sensitivity=20%) ad modum Donders and in seven of eight (sensitivity=88%) with DMCO. Subjective symptoms were only reported by 28% of the patients with a VFD and in two of eight (sensitivity=25%) with a severe VFD. Most patients (86%) considered VFD information mandatory. CONCLUSION: VFD continue to be a frequent adverse event after epilepsy surgery in the medial temporal lobe and may affect the permission to drive a car in at least one in five patients. Subjective symptoms and bedside visual field testing ad modum Donders are not sensitive to detect even a severe VFD. Newly developed web-based visual field test methods appear sensitive to detect a severe VFD but perimetry remains the golden standard for determining if visual standards for driving is fulfilled. Patients consider VFD information as mandatory ³⁾.

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Koskela E, Setälä K, Kivisaari R, Hernesniemi J, Laakso A. Visual field findings after a ruptured intracranial aneurysm. Acta Neurochir (Wien). 2014 Apr 11. [Epub ahead of print] PubMed PMID: 24722946.

Winston GP, Daga P, White MJ, Micallef C, Miserocchi A, Mancini L, Modat M, Stretton J, Sidhu MK, Symms MR, Lythgoe DJ, Thornton J, Yousry TA, Ourselin S, Duncan JS, McEvoy AW. Preventing visual field deficits from neurosurgery. Neurology. 2014 Aug 12;83(7):604-11. doi: 10.1212/WNL.000000000000685. Epub 2014 Jul 11. PubMed PMID: 25015363; PubMed Central PMCID: PMC4141993.

Steensberg AT, Olsen AS, Litman M, Jespersen B, Kolko M, Pinborg LH. Visual field defects after temporal lobe resection for epilepsy. Seizure. 2017 Nov 20;54:1-6. doi: 10.1016/j.seizure.2017.11.011. [Epub ahead of print] PubMed PMID: 29172092.

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