Bitemporal hemianopsia

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Bitemporal hemianopsia (or Bitemporal hemianopia) is a type of partial blindness where vision is missing in the outer half of both the right and left visual field. It is usually associated with lesions of the optic chiasm.

Etiology

Bitemporal hemianopsia most commonly occurs as a result of tumors located at the mid-optic chiasm. Since the adjacent structure is the pituitary gland, some common tumors causing compression are pituitary neuroendocrine tumors and craniopharyngiomas. Also another relatively common neoplastic cause is meningiomas. A cause of vascular origin is an anterior communicating artery aneurysm which arises superior to the chiasm, enlarges, and compresses it from above. — Seung et al., present an unusual case of bitemporal hemianopsia caused by a large anterior communicating artery aneurysm.

A 41-year-old woman was admitted to our neurosurgical department with a sudden-onset bursting headache and visual impairment. On admission, her vision was decreased to finger counting at 30 cm in the left eye and 50 cm in the right eye, and severe bitemporal hemianopsia was demonstrated on visual field testing. A brain computed tomography scan revealed a subarachnoid hemorrhage at the basal cistern, and conventional cerebral catheter angiography of the left internal carotid artery demonstrated an 18×8 mm dumbbell-shaped aneurysm at the ACoA. Microscopic aneurysmal clipping was performed. An ACoA aneurysm can produce visual field defects by compressing the optic chiasm or nerves.

Seung et al., emphasize that it is important to diagnose an aneurysm through cerebrovascular study to prevent confusing it with pituitary apoplexy [1].

Bitemporal hemianopsia in pituitary neuroendocrine tumor

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Bitemporal hemianopsia is classically associated with the suprasellar extension of the pituitary tumor, causing compression of the anterior aspect of the optic chiasm. Other visual field deficits can also occur.

1)

Seung WB, Kim DY, Park YS. A Large Ruptured Anterior Communicating Artery Aneurysm Presenting with Bitemporal Hemianopsia. J Korean Neurosurg Soc. 2015 Sep;58(3):291-3. doi: 10.3340/jkns.2015.58.3.291. Epub 2015 Sep 30. PubMed PMID: 26539276; PubMed Central PMCID: PMC4630364.