

# A Case Report on Spontaneous visual recovery following stroke induced cortical blindness

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## Introduction:

Cortical blindness (CB) is a term to describe loss of vision caused by damage to the primary visual cortex.

We report a case of bilateral cortical blindness caused by extensive bilateral posterior circulation infarcts (POCI) and his unexpected recovery of vision.

## Initial presentation:

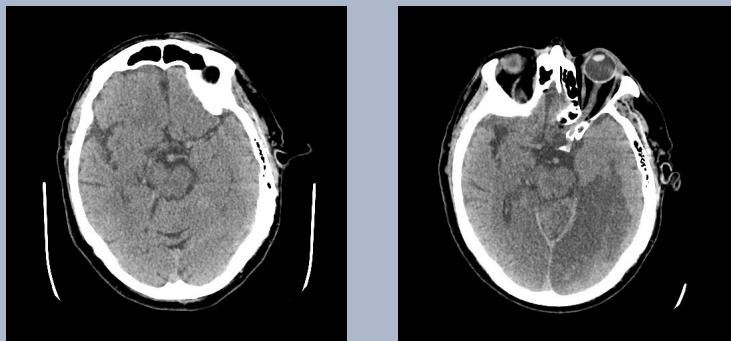
An 81 year old male presented with sudden onset occipital headache, left hemiparesis, dysarthria, and bilateral loss of vision. His past medical history includes hypertension, ischemic heart disease, transient ischemic attack and atrial fibrillation, all of which are risk factors for developing stroke.

## Clinical course:

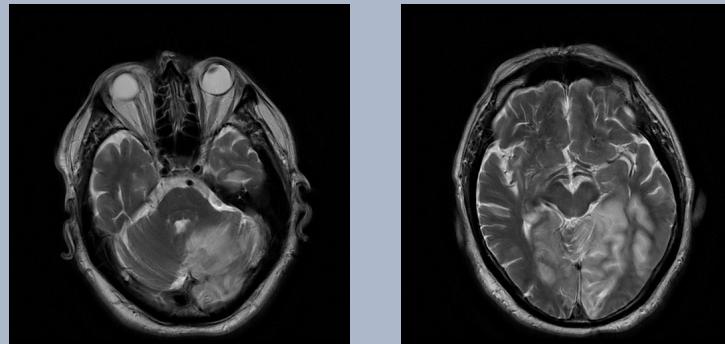
An initial CT head on the day of presentation had not shown any acute changes therefore he was thrombolysed and was also started on long term anticoagulation in view of his risk factors for developing further strokes.

Repeat CT and MRI scans on the next day however found extensive posterior circulation stroke involving occipital, temporal and cerebellar infarction bilaterally, with haemorrhagic transformation both above and below the tentorium. There was also midline shift left to right by 2mm.

Patient was seen by an ophthalmologist 2 days following the stroke, his visual acuity (VA) confirmed as only light perception with unremarkable ocular examination. Hence a diagnosis of stroke-induced CB was made. A week later corrected VA was hand movement and 6/60 in right (OD) and left (OS) eye respectively. Patient had healthy discs with no retinal pathology, and intraocular pressures (IOP) were within normal limits.



CT head on day of initial presentation (left) in comparison to next day following stroke (right)



MRI head performed next day following stroke

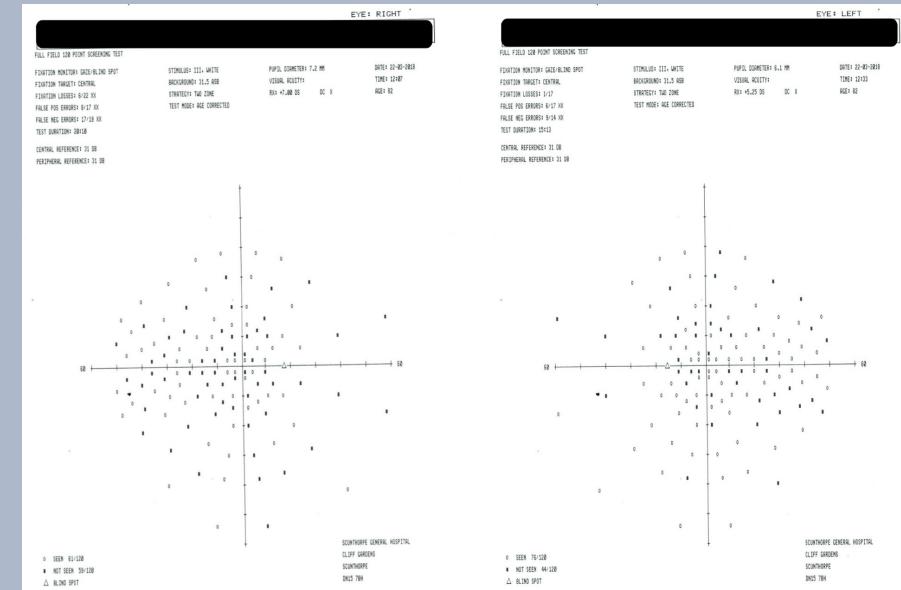
In a geriatric medicine clinic review 2 months later, his daughter mentioned that he had episodes of intermittent return of vision bilaterally lasting up to 30 minutes whenever he gets a panic attack. However his vision has not improved and maintained somewhat similar in his next review 6 months following his stroke.



OCT images showing patient having difficulty with fixation

9 months post event, his vision was found to have significantly improved with corrected VA noted as 6/9 and 6/12 in right and left respectively. On this occasion there was early nuclear cataracts bilaterally, but anterior segment examination was otherwise unremarkable, healthy optic discs and macula and normal IOP bilaterally. On confrontation, it was revealed that his peripheral vision was limited and was confirmed by 120-2 static perimetry which showed gross constriction of peripheral fields.

His vision fluctuated for several months thereafter, with hand movement only on the right, 6/12 and 6/9 on the left on 2 further reviews. During this he was also noted to have slightly raised IOP of 26mmHg OD and 22mmHg OS. Fundal examination noted a 0.6 cupping of right disc and 0.7 cupping of left disc, although an ocular tomography (OCT) scan shows normal nerve fibre layers. Peripheral vision was still compromised with no significant improvements.



Visual fields 9 months post stroke



Latest OCT images – 3 years following stroke

3 years after his stroke, his vision maintained at 6/12 in the right and 6/9 in the left.

## Discussion:

Although there has been mention of visual recovery after cortical blindness in the literature, however no definite cause or mechanism was identified. There were articles stating visual recovery occurred following early rehabilitation but in our case, the patient has not had any form of visual rehabilitation post-stroke.

## Learning point:

Spontaneous recovery of vision after cortical blindness although rare, is a possibility even in the absence of visual rehabilitation therapy.