

# Prosopometamorphopsia as a Manifestation of Symptomatic Epilepsy after Stroke affecting the Face-selective Network: a Case Report

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**Introduction.** Prosopometamorphopsia is an extremely rare visual perception disorder, characterized by facial distortions, affecting the whole face or parts of it, in the absence of similar distortions in surrounding objects. Duchaine and Yovel's face-selective model suggests the involvement of a right-sided network composed by the occipital, fusiform, and posterior superior temporal sulcus face areas. Lesions in these regions could lead to alterations in face recognition and prosopometamorphopsia.

**Results.** We describe a case of isolated prosopometamorphopsia as a manifestation of symptomatic epilepsy after stroke. To additionally characterize the involvement of the face-selective network, we used the BcB toolkit, an MRI analysis software, with a 90% probability threshold for tract involvement. The inferior fronto-occipital fasciculus (IFOF), inferior longitudinal fasciculus (ILF), and superior longitudinal fasciculus (SLF) were mainly affected.

**Case report.** A 57-year-old man presented to the Emergency Department with isolated visual hallucinosis. He reported faces perceived as distorted, with eyes on the cheeks or nose on the forehead, similar to "zombies". The symptoms were discontinuous and criticized by the patient. The remaining neurological examination was normal. While a history of chronic alcohol abuse emerged, he showed no clinical signs of intoxication or withdrawal. He was admitted to the Neurology Department where he underwent a brain MRI that revealed a large right temporo-parieto-insular degenerative area, resulting from a recent middle cerebral artery (i.e., inferior M2 branch) stroke. Blood tests showed no signs of infection or other relevant abnormalities. An epileptic manifestation was suspected, and the patient underwent an electroencephalogram which was normal. However, after beginning antiepileptic therapy with lamotrigine the symptoms of the patient rapidly resolved, with no further episodes of visual hallucinosis.

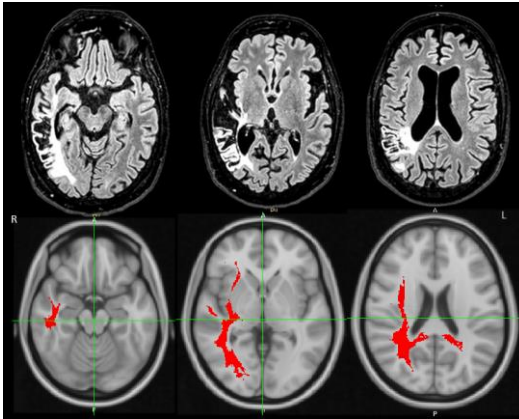


Figure 1. The top row shows an MRI FLAIR sequence revealing a right temporo-parieto-insular degenerative area resulting from a recent middle cerebral artery stroke, while the bottom row displays the disconnection profile of the lesion (in red), aligned with areas described as part of the face-selective network.

**Discussion.** Epileptic seizures following structural damage to the right temporo-parieto-insular regions may present with isolated prosopometamorphopsia. The disconnection profile of the lesion aligned with areas described as being part of the face-selective network.

**Conclusion.** Symptomatic epilepsy should be considered in the case of atypical symptoms, such as prosopometamorphopsia, after damage to areas or disconnection of white matter tracts within the face-recognition network. Recognizing and appropriately managing this underlying etiology is crucial for accurate diagnosis and effective clinical care.

## Bibliography.

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