

Visual hallucination caused by multiloculated hydrocephalus in the frontal lobe: a case report

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Abstract

A 72-year-old man consulted our hospital for visual hallucination. His non-contrast computed tomography (CT) of head showed multiloculated hydrocephalus in the frontal lobe. Memantine treatment was started and his visual hallucination disappeared. This is a rare case of frontal lobe damage causing visual hallucination.

Keywords: Visual Hallucination; Hydrocephalus; Memantine.

Introduction

Visual hallucinations may be associated with disruption of functional connectivity networks with underlying biochemical dysfunction such as decreased cholinergic activity. Structural abnormalities in the primary and higher visual processing areas have also been found in patients with hallucinations. Charles Bonnet Syndrome [1], occipital lobe epilepsy [2], and Lewy body dementias [3] are also known causes of visual hallucinations.

However, visual hallucinations with frontal lobe damage are rare. In this case, we introduce the unusual visual hallucinations associated with frontal lobe damage and the choice of treatment.

Case report

A 72-year-old man was consulted in a Japanese tertiary hospital due to visual hallucinations. He complained that he began to see his wife's quiet and vivid ghosts. He knew the ghost was a hallucination. His Hasegawa Dementia

Scale-Revised (HDS-R) scored was of 23/30 points. His cognitive function was considered to be mild cognitive impairment (MCI). However, his daily life was self-sustaining and he was considered to have no diagnosis of dementia. His consciousness was clear and he had no delirium. He was not an alcoholic and had never used hallucinogens.

His non-contrast computed tomography (CT) of head showed multiloculated hydrocephalus in the frontal lobe (Figure 1). He was

determined not to be indicated for surgery due to his frailty and lack of urgency such as paralysis and headaches. As a conservative treatment, Memantine (2.5 mg / day) was started. A week later, His visual hallucinations have disappeared and have never recurred in the last three months. The low dose of memantine prescribed to him did not cause any side effects such as dizziness. Now he is living well in a nursing home. He has provided permission to publish his case and written informed consent was obtained.

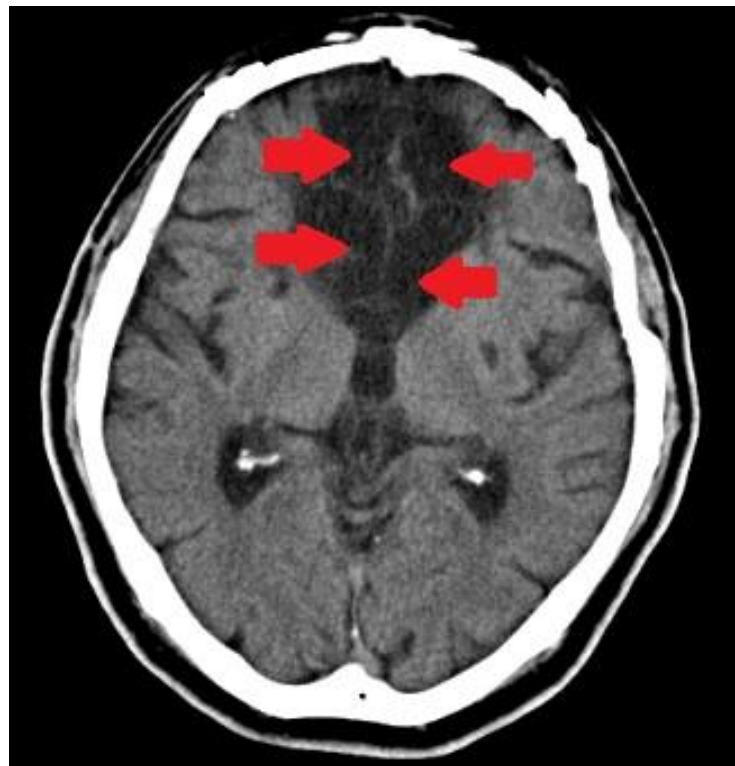


Figure 1. CT shows individual fluid-filled compartments form (red arrows).

Discussion and Conclusion

Localized hydrocephalus is defined as a condition in which

individual fluid-filled compartments form within or in relation to the ventricular system of the brain. There are both uniloculated and

multiloculated variants. Endoscopic treatment is common, but there is no accurate evidence [4].

There are several research reports on the drug treatment of visual hallucinations associated with neurological disorders. However, its effects, including Memantine, are not clear. Therefore, we need to be cautious about introducing antipsychotics and nootropics for visual hallucinations [5]. We should pay attention to the following: Visual hallucinations can occur from causes other than Lewy body dementias, occipital lobe epilepsy and Charles Bonnet syndrome.

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Conflict of interest: The author declares no conflicts of interest associated with this manuscript. The patient has provided permission to publish these features including his examination data and imaging findings of his case, and the identity of the patient has been protected.

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