

Resolution of Othello-like syndrome following ventricular shunting in a post traumatic normal pressure hydrocephalus subject

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Dear Editor,

Normal pressure hydrocephalus (NPH) is a syndrome characterized by urinary incontinence, gait disturbance and dementia plus dilation of ventricular system due to disturbance of cerebrospinal fluid (CSF) circulation¹⁻⁴. There is wide scientific evidence pointing association between NPH and psychiatric symptoms¹⁻⁴.

Othello syndrome (OS) is a content-specific jealousy delusion characterized by fixed false belief that one's partner has been or is being unfaithful⁵⁻¹⁰. We report an unusual case of NPH associated with Othello-like syndrome⁵⁻¹⁰, and complete improvement of psychiatric symptoms after proper neurosurgical treatment.

Case description

We report a case of a 66-year-old white man attending to emergency room evaluation in September 2015. In a rainy day, he was driving his car and a tree had fallen just over him. He was conducted to hospital, with preserved consciousness but complaining of headache. His previous medical history was eventless. A full trauma investigation was done without any finding, except for a mild brain traumatic injury, characterized by headache and subarachnoid hemorrhages in skull computed tomography (CT) (Figure 1A).

Initially, patient was submitted only to neurological observation and was discharged after 4 days, with preserved neurological examination.

During hospitalization, he started to behave with aggressivity and jealous with his wife. At home, he continued to behave with aggressivity and suspicion, imagining that his wife was cheating him with anybody who came to his house to visit him during recovery.

First psychiatric evaluation raised the hypothesis of jealous delusions and a trial was done with quetiapine (up to 600 mg) without any results. The second trial with risperidone (up to 6 mg) has also failed. In the follow-up medical consultation this behavior became clear and a control CT and single photon emission cintigraphy (SPECT) were performed after one month of trauma, disclosing enlarged ventricles compared to post traumatic CT (Figures 1B and 1C). SPECT did not identify clearly a hypoperfusal region.

Then, he was submitted to surgery two months after initial trauma (Figure 1D). Postoperative period was unremarkable, and his jealousy symptoms decreased promptly. Nowadays, six months after trauma, he has returned to routine daily activities and is symptom free.

Discussion

Our case illustrates the improvement of OS after shunting a post traumatic NPH patient. Oliveira *et al.* showed that up to 70% of patients with NPH may present neuropsychiatric symptoms, which may be from metabolic impairments in frontal lobe, basal ganglia and thalamus, all of which can be involved in pathophysiology of OS¹⁻¹⁰.

OS is a content-specific jealousy delusion characterized by fixed false belief that one's partner has been or is being unfaithful⁸⁻¹⁰. This delusion can range from mild to severe cases, with negative impact in social interaction and even risk of violence due to extreme jealousy⁸⁻¹⁰. Some anecdotal cases were described after frontal pathologies like tumors, surgeries, frontal strokes, traumatic injuries and use of medications (ropinirole, pramipexole, zonisamide).

In our case, there was probably a link between initial trauma, development of hydrocephalus and onset of psychiatric symptoms. After shunting, a clear improvement in symptoms was observed.

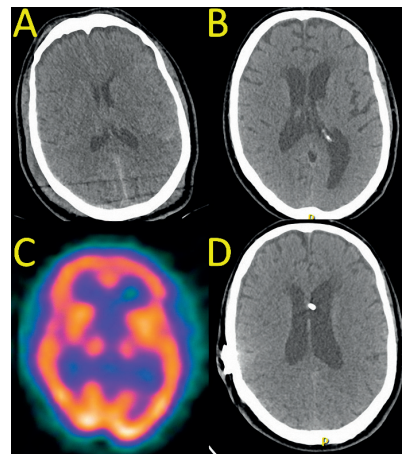


Figure 1. (A) Skull CT after trauma, revealing small ventricles and small subarachnoid hemorrhages, especially in left hemisphere. (B) Skull CT after psychiatric symptoms, revealing hydrocephalus. (C) SPECT image, disclosing almost symmetrical perfusion in whole brain. (D) Skull CT after shunting, with reduction of ventricular sizes followed by improved psychiatric symptoms.

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