

Case report

Alice in wonderland syndrome: a rare psychiatric manifestation in a patient with stroke

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Summary

Alice in wonderland syndrome is a phenomenon of perceptual distortion where individual experiences wrong sense of body image which is often associated with depersonalization and/or derealization. A case of a late adult stroke patient with distorted visual perception regarding his hands and legs was depicted here. The patient's concern of asymmetry in his body parts were only abolished by practical evidence to the contrary though the events continued to come about repeatedly. Reassurance with evidence was added with stroke management as no other specific treatment was available. Further diverse epidemiological studies were suggested to execute and publish highlighting the management of this syndrome.

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Introduction

Alice in wonderland syndrome (AIWS) is a very rare condition in which the brain perceives environmental signals inappropriately. Due to this, the patient experiences altered perceptions of external stimuli which is distinct from visual hallucinations.¹ In 1955, John Todd, an English psychiatrist, first described these mysterious symptoms. He took the name Alice in wonderland from the well-known children's tale Alice's adventure in wonderland written by renowned English author Lewis Carroll in 1865.²

The protagonist of the tale is a little girl named Alice, who one day followed a nicely dressed rabbit and unintentionally wandered into an amazing dreamland. There, a sequence of strange events started to happen one by one. Alice occasionally shrunk to the size of a very small person or occasionally became enlarged. She found herself in a dream as the tale came to a conclusion.³ Perceptual distortion occurs in AIWS is distinct from visual hallucinations. The diagnosis of AIWS was still quite mysterious; few physicians were familiar with it. In 2016, a review of the extant literature revealed that only 169 cases of AIWS had been reported since the syndrome was conceptualized in 1955.⁴ A case of Alice in wonderland syndrome of a stroke patient in his fifties had been enumerated here.

Case summary

A male patient, 58 years old, was brought to the chamber of a psychiatrist by his wife and children. About six months ago, he had a history stroke. Consequently, he could feel touch but could not move his left upper or lower limb. He was sitting on a

wheelchair with a depressed face. According to the family member, the patient started to behave mysteriously for a few days. All on a sudden he screamed out, saying, "come here, look at my hands; one of them seems smaller than the other, my hand shrinks on one side; how am I going to survive right now?" Immediately after his call, everyone attended him. They started examining his fingers and hand. His hands and fingers appeared to be equally flawless and perfect and they confirmed him to be free of any deformities. Everyone was confused with strange behaviour of him who never used to make jokes. However, he again pointing to his hands, said, "look, one of my hands is a bit smaller than the other, I am able to see clearly; why can't you? Why don't you trust me?" He rejected the reassurance of others that time. They all then brought measuring tapes and took lengths of his hands. Then he stopped weeping and gradually realized that what he had seen was incorrect. Sometimes he said that one of his arms or legs was missing or not in its proper place. His family members reassured him by pulling off his shirt and other clothing to show his arms and legs. He became convinced thereafter. These events occurred repeatedly where he needed to assure by placing evidence against his perception. The patient perceived those visual distortions more at night. There was no history of substance use, migraine, epilepsy, recent infectious disease of the patient or mental disorder in the family. Mental state revealed no other abnormality. Treatment was directed towards repeated reassurance with proper management of stroke.

Discussion

According to John Todd, Alice in wonderland syndrome (AIWS) was a self-experienced paroxysmal false sense of body image

involving distortions of the patient's own body's size, mass, or shape or its position in space, which was frequently accompanied by depersonalization and/or derealization.¹ AIWS occurred most frequently at night and was more common in children.⁵ Symptoms usually lasted a few minutes to a few days, but they could last for years or even be lifelong.^{6,7} Due to this, the patient experienced altered perceptions of external stimuli.⁸ In this case similar events occurred with the patient who experienced distortion of his different body parts and became afraid of those perceived changes. It was different from hallucination as upon ensuring and providing evidence against his statements, he immediately understood his wrong perception. However, the similar events occurred again and again eventually forcing him to seek psychiatric consultation.

It was believed that perceptual distortions were caused by structural or functional lesions in different parts of the perceptual network, such as area V4 for hyperchromatopsia and V5 for akinetopsia.⁶ There are many possible causes of AIWS, including migraines⁹, temporal lobe epilepsy,¹⁰ use of the mast cell stabilizer drug montelukast,¹¹ H1N1 influenza,^{12,13} Lyme disease,¹⁴ mononucleosis,¹⁵ Epstein-Barr virus infections,¹⁶ psychoactive drugs such as lysergic acid diethylamide (LSD),^{17,18} infarction¹⁹ and brain tumors²⁰. In our patients, only evident reason that might be responsible for the phenomena was his half-year-old stroke. As no specific treatment was available other than addressing the underlying cause, management of stroke along with reassurance was provided to the patient.

Conclusion

Alice in wonderland syndrome was an extremely rare phenomenon which might be easily mistaken as psychosis or other psychiatric condition. Mental health professionals should be aware of this disease and further study was needed in this area to devise more specified management.

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