Alice in Wonderland Syndrome Associated with Vertebrobasilar Migraine and Montelukast Use: Case Report

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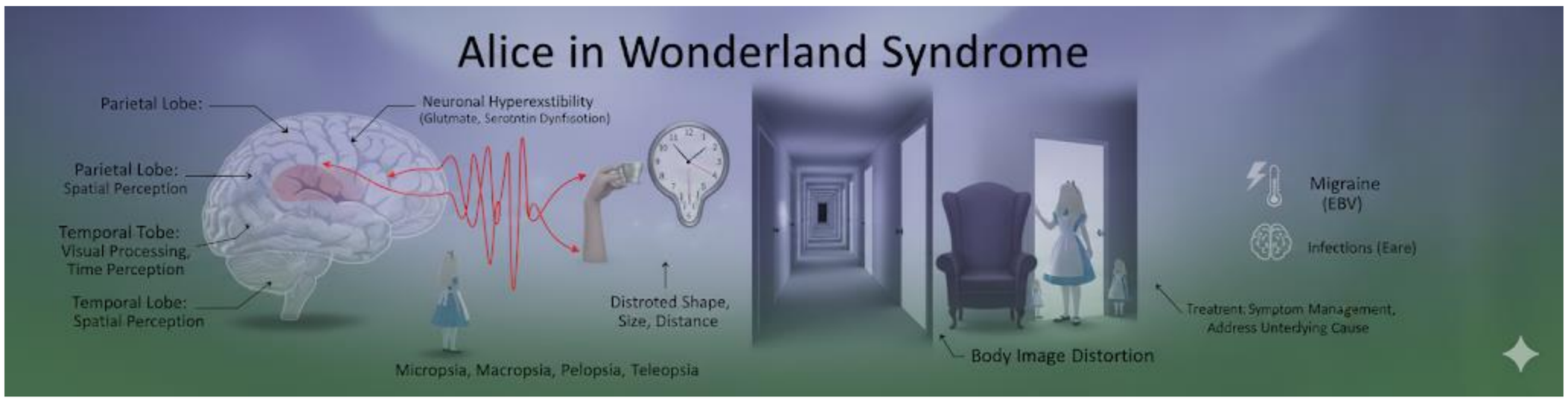
OBJECTIVE: To present a case of Alice in Wonderland Syndrome associated with migraine headache with aura in a female child using montelukast.

METHODS: A 9-year-old girl with recurrent intense headaches and vertebrobasilar-type aura, nausea, and a syncope episode unrelated to vertigo. Symptoms included scintillating scotomas, macropsia, micropsia, and burning paresthesia with tingling in extremities. These perceptual disturbances emerged after the initiation of montelukast for bronchial asthma control. Episodic migraine with complex vertebrobasilar-type aura associated with Alice in Wonderland Syndrome (AIWS) was hypothesized. Topiramate was initiated, alongside montelukast discontinuation. The patient exhibited favorable clinical progress, with migraine control and resolution of perceptual disturbances.



RESULTS: AIWS is a rare neurological condition causing visual, tactile, and temporal distortions like micropsia, macropsia, dysmetropsia, and alterations in the perception of time and one's own body, without primary impairment of visual acuity. Its pathophysiology involves dysfunctions in the parieto-temporo-occipital cortex, and it is associated with migraine with aura, particularly the vertebrobasilar type, where cortical spreading depression and transient cerebral hypoperfusion lead to perceptual symptoms. Cortical hyperexcitability and alterations in serotonergic and glutamatergic neurotransmission also contribute. AIWS may be an atypical aura manifestation, reinforcing the need to investigate migraines in these patients. Additionally, montelukast, a leukotriene receptor antagonist, may affect AIWS pathophysiology through neuroinflammatory effects and neurotransmission modulation, with rare reports of its association in the literature.

CONCLUSION: Patients with AIWS may be misdiagnosed due to the lack of clear diagnostic criteria. Therefore, the presentation of characteristic symptoms of the syndrome and other possible conditions should be carefully investigated. Management of the syndrome should include the identification and prevention of trigger factors, as seen in our patient, where vertebrobasilar-type migraine with aura and the montelukast use were triggering factors, which were controlled.

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