

Transient Loss of Consciousness in an Adolescent With Pathological Intoxication

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Pathological intoxication (PI), also known as alcohol idiosyncratic intoxication, is a rare condition in which individuals exhibit significant neuropsychiatric changes after minimal alcohol consumption, disproportionate to its pharmacologic effects. Previously recognized in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, Third Edition, Revised,¹ PI was removed from the *DSM-IV* due to overlap with standard intoxication.² Research suggests that PI may result from heightened alcohol sensitivity, potentially linked to genetic variations in enzymes like aldehyde dehydrogenase (ALDH), causing acetaldehyde buildup.³ A review of Chinese literature (1984–2012) identified 10 PI cases, primarily in younger individuals, with symptoms like aggression or psychosis lasting minutes to hours.³ PI is rare in adolescents, and transient loss of consciousness (LOC) is an unusual presentation, necessitating differentiation from organic or psychiatric conditions.³ This report describes a 15-year-old boy with transient LOC, confusion, and disorientation after consuming minimal alcohol, consistent with PI.

Case Report

A 15-year-old boy presented to the emergency department after collapsing and losing consciousness following ingestion of approximately 30 mL of vodka (40% alcohol by volume) due to peer influence. Within 15–20 minutes, he became confused, consumed

excessive water, appeared disoriented, and lost consciousness for 45–60 minutes, with an episode of urinary incontinence. Upon waking, he remained confused for 2 hours and had partial amnesia of the event. He had no prior medical, psychiatric, or substance use history and no family history of neurological or psychiatric disorders. Initial examinations revealed normal vital signs (blood pressure: 110/70 mm Hg, heart rate: 70 bpm, temperature: 37.1°C [98.8°F]), disorientation, anxiety, and disorganized thought processes. Neurological findings were nonfocal, resembling a postseizure state. Laboratory tests, including complete blood count, electrolytes, liver function, and serum prolactin, were within normal limits. Brain magnetic resonance imaging, 60-minute electroencephalogram (EEG), and electrocardiogram showed no abnormalities.

The patient was admitted to the pediatric intensive care unit and monitored with psychiatry and neurology consultations. Urine drug (substance use) screen was considered and was to be conducted by an outsourced laboratory. However, the drug screen was refused by his family members, who cited financial constraints. By the next morning, he regained full orientation and memory, recalling only fragments of the incident. No further symptoms occurred during a 72-hour observation. He was discharged with instructions for alcohol abstinence, psychiatric follow-up, and a neurology

follow-up with a repeat EEG in 3 months.

Discussion

This case highlights an atypical PI presentation in an adolescent, marked by LOC rather than common symptoms like aggression or psychosis.^{3,4} Minimal quantity of alcohol intake and absence of typical intoxication signs supported the PI diagnosis.² The LOC and lack of aggression suggest a broader PI clinical spectrum.⁴ Potential causes include genetic ALDH2 variants or disruptions in γ-aminobutyric acid/glutamate balance,⁵ although genetic testing was unavailable. Differential diagnoses, including seizures and substance-induced psychosis, were ruled out due to rapid symptom resolution and partial amnesia.⁴ Management involved supportive care and alcohol abstinence counseling, with no psychotropic medication.³ Clinicians should consider PI in adolescents with unusual neuropsychiatric symptoms after minimal alcohol exposure, given its medicolegal implications.

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