Mania and Psychosis After Acquired Visual Impairment

Tuna Hasoglu, MD; Dallas W. Hamlin, MD; and Alison R. Swigart, MD

The relationship between visual impairment and psychosis is fascinating and complex. Although not without controversy, both congenital blindness and "perfect" vision are now generally considered to be protective against schizophrenia.[1–3] Acquired visual impairments in later life have been linked to psychotic experiences.[4] Visual perceptual abnormalities have been studied to better characterize psychotic spectrum illnesses including schizophrenia and provide insight into its diverse etiologies.[5] The predictive processing model proposes that developmental changes to the γ-aminobutyric acid receptor in those with congenital blindness modify top-down signal processing to cause greater reliance on multiple other sensory inputs, in contrast to visual input alone in healthy adults.[6] These changes could confer protection against development of psychotic illness, as noisy perceptual input or false inferences would be less likely to cause impairment.[6] However, people with acquired visual impairment do not have such adaptations and may be more susceptible to development of psychotic experiences due to their previous reliance on visual input for cognitive processing and interpretation of sensory stimuli. Herein, we present a case to illustrate the clinical importance of this point.

Case Report

A 26-year-old man with a history of attention-deficit/hyperactivity disorder who had been prescribed mixed amphetamine salts 100 mg/d by his primary care physician presented to the hospital in hypertensive emergency. He suffered end-organ damage including kidney failure requiring dialysis, optic neuritis and retinopathy with retinal hemorrhage causing partial blindness, and posterior reversible encephalopathy syndrome presenting with multiple small infarcts in bilateral cerebral and cerebellar hemispheres on magnetic resonance imaging. Following medical stabilization, he was followed in the outpatient psychiatry clinic for depressive and anxiety symptoms, for which he was prescribed sertraline 200 mg/d and lorazepam up to 1.5 mg/d. Within the following year, he started having psychotic-like experiences, such as the feeling of being watched by unknown people related to the inability to use visual cues to confirm or disprove this sensation. He also developed significant sleep cycle and circadian rhythm dysfunction, with reduced total sleep time. Approximately 1 year after his episode of hypertensive emergency, he presented with frank psychotic and manic symptoms including irritable mood, decreased need for sleep, aggressive and erratic behavior, persecutory and grandiose delusions, and ideas of reference, necessitating 2 inpatient psychiatric admissions. The patient was ultimately stabilized on olanzapine 20 mg/d and valproic acid 1,000 mg/d. His psychotic symptoms of persecutory delusions and delusions of reference persisted after resolution of his acute manic symptoms.

After discharge from hospitalizations, the patient was enrolled in a coordinated specialty care clinic for first-episode psychosis. He engaged in multiple treatment modalities, including medication management, individual resiliency training, group therapy, peer support, case management, and vocational rehabilitation. With intensive support, the patient was able to reengage in social activities and access specific supports for individuals with visual impairment through the American Foundation for the Blind and start job searching. Although the patient has struggled with depressive symptoms, which are largely connected to his difficulty accepting the acquired visual impairment, he has had no relapse to symptoms of mania or psychosis over 18 months of follow-up.

Discussion

This case highlights the heightened risk of new-onset psychotic symptoms in patients with acquired visual impairment. Although congenital blindness is recognized as protective against development of schizophrenia, visual loss in later life appears to be a predisposing factor for subsequent development of psychosis. Providers should be aware of this elevated risk and maintain a high index of suspicion for psychotic symptoms in the setting of acquired visual impairment. Treatment should prioritize integration of interdisciplinary therapeutic modalities and referral to support organizations for the blind to best promote recovery.

Article Information
Published Online: June 8, 2023.
https://doi.org/10.4088/PCC.22cr03376

Prim Care Companion CNS Disord. 2023;25(3):22cr03376
To Cite: Hasoglu T, Hamlin DW, Swigart AR. Mania and psychosis after acquired visual impairment. *Prim Care Companion CNS Disord.* 2023;25(3):22cr03376.
Author Affiliations: Department of Psychiatry, Tufts Medical Center, Boston, Massachusetts (Hasoglu); Department of Psychiatry and Behavioral Health, Penn State College of Medicine, Hershey, Pennsylvania (Hamlin and Swigart).
Corresponding Author: Dallas W. Hamlin, MD, 500 University Drive, Hershey PA, 17033 (dhamlin@pennstatehealth.psu.edu).
Relevant Financial Relationships: None.
Funding/Support: None.
Previous Presentation: Poster presented at the annual meeting of the American Psychiatric Association; May 20–24, 2022; New Orleans, Louisiana.

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