

# Charles Bonnet Syndrome Leading to Delusional and Ocular Delusional Parasitosis

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Charles Bonnet syndrome is the manifestation of visual hallucinations in an individual with vision loss who has an unremarkable neuropsychiatric examination.<sup>1</sup> It was first described by Charles Bonnet in 1769 in his grandfather, who started experiencing visual hallucinations after vision loss due to cataracts, and later Charles Bonnet himself developed the same condition after vision loss. The term *Charles Bonnet syndrome* was coined by de Morsier in 1938.<sup>2,3</sup> Glaucoma is a common cause of progressive irreversible vision loss.<sup>2</sup> In this report, we present an interesting case of Charles Bonnet syndrome leading to delusional parasitosis in a patient with vision loss due to long-term glaucoma.

## Case Report

A 78-year-old Black man with a history of diabetes and long-standing glaucoma but no psychiatric history presented with hallucinations of seeing snakes and bugs. He reported that around 1 month prior to the current presentation he was treated with intraocular injection for vision loss, after which he started having visual disturbances in the right eye. He reported seeing squiggly objects in his right eye that were present when his eye was open but would disappear after closing the eye. He had no visual issues with his left eye. When asked more about his complaints, he reported seeing roaches and bugs that grew larger when he tried to hit them. He was seen swatting and waving at them. When asked if the bugs were real, he was vague and would say that sometimes he felt they were real and sometimes not. At times he was

seen scratching his skin and said that the bugs were biting him. He denied having any auditory hallucinations. He denied seeing any bugs while sleeping or while his eyes were closed.

Neurology consultation was sought, and nothing significant was noted. The eye examination revealed reduced peripheral vision. Laboratory tests including vitamin B<sub>12</sub>, thyroid-stimulating hormone, free T4, folate, computed tomography head, and magnetic resonance imaging brain/orbit were unremarkable. The neurology team recommended an eye patch, and he was started on risperidone 0.5 mg at night for visual hallucinations, which was eventually increased to 1 mg. The patient reported some improvement in hallucinations with the eye patch. After discharge, he followed up with an ophthalmologist and primary care, and nothing remarkable was found except for glaucoma-related visual problems. He developed worsening of visual hallucinations and reported seeing bugs in both eyes. He expressed frustration that bugs were replicating and invading his eyes. He would hit the walls and swat. He requested family members to call for bug exterminators, as he strongly believed that bugs were infesting him and invading his house. He was admitted to an inpatient psychiatry facility a few times. As there was no improvement with risperidone, he was switched to aripiprazole 15 mg/d and was started on mirtazapine 15 mg at bedtime for secondary depression and anxiety. He noted some improvement but not complete relief. He was discharged home with recommendations to follow up with his outpatient

psychiatrist, therapist, primary care physician, and ophthalmologist.

## Discussion

The patient had glaucoma leading to vision disturbances. In a meta-analysis, the overall prevalence of Charles Bonnet syndrome in glaucoma was reported as 2.8%.<sup>2</sup> When only considering patients who had bilateral low visual acuity due to glaucoma, the prevalence of Charles Bonnet syndrome was 13.5%.<sup>2</sup> Charles Bonnet syndrome is diagnosed based on diagnostic criteria, which include (1) at least 1 visual hallucination within the past 4 weeks, (2) a period between the first and last hallucination exceeding 4 weeks, (3) full or partial retention of insight into the unreal nature of the hallucinations, (4) absence of hallucinations in other sensory modalities, and (5) absence of delusions.<sup>3,4</sup> Our patient had partial insight at initial presentation. The partial insight gradually began to vanish as his hallucinations worsened and his thoughts about parasitic infestation became more fixed, intense, and of delusional intensity. There is literature suggesting that Charles Bonnet syndrome can be associated with psychosis,<sup>1,3</sup> and many patients lack insight.<sup>3,5</sup> Delusional parasitosis is characterized by delusions related to being infested with bugs, parasites, worms,<sup>5</sup> or similar creatures.<sup>6</sup> Ocular delusional parasitosis is delusions of parasites involving the eye and is extremely rare.<sup>7</sup> Very few cases of Charles Bonnet syndrome and ocular delusional parasitosis have been described,<sup>7-11</sup> and, to the best of our knowledge, this is the sixth case. Although there is a lack of consensus

regarding pharmacotherapy, antipsychotics are usually considered for controlling symptoms.<sup>1,6,7</sup> More research is needed in the development of treatment guidelines for Charles Bonnet syndrome with or without coexisting conditions. A collaborative and empathetic approach is of paramount importance in treating patients and helping their caregivers in managing this debilitating and difficult to treat condition.

## Article Information

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