

CASE

“Worm crawling inside my brain”: a rare case of delusional parasitosis

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Abstract

Delusional parasitosis is a disorder in which persons suffering have a firm and unshakeable belief of harbouring some parasite or worm in his/her body. In today's nosology, it has been placed under delusional disorder-somatic type in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (297.1) and under persistent delusional disorders in the tenth revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (F22). Existing literature has extensively described this condition to affect mainly the skin with some instances of affecting the oral mucosa and the intestine. We are reporting a rare case of delusional disorder of parasite infestation in the brain.

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Delusional parasitosis (DP), or delusional infestation, is a condition in which a person has the unshakeable and mistaken belief of being infested with parasites.[1] It was originally described by Ekbom in 1938.[2] Munro[3] classifies delusional parasitosis as a subtype of monosymptomatic hypochondriacal psychosis. So far, existing literature has extensively described cases of delusional parasitosis where the parasite or the worm, as the case may be, is found to infest the skin surface either on or inside it. Here, we are reporting the case of a patient who came to our hospital with complaint of a worm crawling inside his brain.

The case

An 18-year-old unmarried Hindu male presented to our hospital with complains of pricking sensation in the posterior part of his head that started suddenly one month ago. On having the sensation, he stroked this part of his head which resulted in temporary stoppage of the sensation, only to recur at the very next moment. He described of a worm crawling inside the back side of his brain and it persisted for next four hours before he retired for the day. The same crawling sensation again occurred the next day. It also occurred when he came home from outside and washed his face. He reasoned that the worm started crawling inside his brain when it got a cool environment as caused by washing head and face, and such crawling subsided when he went out in open

daylight. He was sure of the presence of more than one worm of about 0.5 cm each. They initially travelled for small distance inside his brain, gradually increasing the distance being traversed. They were also growing in size due to which the distance travelled across his brain was gradually decreasing over time.

He told of one incident when while working in a green house, he developed heaviness and itching in his brain which he also ascribed to the worms, and that such worms were blocking his brain similarly as like blocking a sewage system. He explained that the worms residing inside his brain were responsible for this and that they could not have entered from outside since the green house was closed from all sides. He also complained of ear and eye pain which he told to be caused by those worms who were trying to come out of his body through those orifices, but because they had grown too much, they were unable to do so. He even planned to screen his house with iron net, thinking that such worms were coming from the bushes around his house.

He started to worry excessively about this problem. He said that this problem could go to any extent and even could endanger his life. His interactions with others decreased. He even avoided talking to his friends since he could not give proper attention while talking to others as he would always be thinking about those crawling sensations. He would not like to share this with his friends

and others because he felt they could not understand his problem. His interest in pleasurable activities like watching television (TV), listening music, had decreased by then.

His cousin brother was sympathetic to his problems and he told that he should better get a computed tomography (CT) scan done. He went to a government hospital where he persuaded the doctor to prescribe a CT scan of his brain. The doctor, as he told, refused to comply with his demands telling that it would be unnecessary. He visited another health facility with the same purpose, but in vain.

He was found to be irritable. He said that he was not having any problem in sleep because starting from evening the worms used to become tired after three to four hours of crawling and thus they would stop crawling when he went to bed. But for one to two days he remained awake till late night due to crawling sensations. He had been facing substantial problem in his daily activities including studies.

He had no past history of any major medical, surgical, or psychiatric illness. There was no family history of any psychiatric illness. He belonged from a nuclear family of low socioeconomic background. His parents told that he was born out of normal term vaginal delivery in hospital with normal developmental milestones. He reported of not being abused as a child at home or outside. He was studying in class 12.

There was no history of any head trauma, unconsciousness, convulsions, taking substances like alcohol, cannabis etc., self-muttering, self-laughing, suspiciousness, hearing voices not heard by others, maintaining body postures for long periods of time, poor self-care, persistent and pervasive low mood, worthlessness, hopelessness, suicidal ideations, inflated self-esteem, elated mood, fear of death, or impending doom, etc.

General and systemic physical examinations of this young man were found to be within normal limits.

Onmental status examination, he was found to be tidy and well groomed. He maintained eye contact. Rapport was established with him. His affect was predominantly irritable, but reactive and appropriate. He was speaking coherently and relevantly. Delusional zoopathy was found in thought content and tactile hallucination in perception with level two insight. Laboratory blood investigations were found to be normal. CT scan imaging of brain was also found to be normal.

A provisional diagnosis of delusional disorder-somatic type (fifth edition of the Diagnostic and Statistical Manual of Mental Disorders [DSM-5]) was made (297.1).[4] Treatment was started with tablet risperidone and

trihexyphenidyl combination (2 mg+2 mg) which was increased to risperidone and trihexyphenidyl combination (3 mg+2 mg) on outpatient basis. He took the medication for 11 days and was compliant to it, but with no response.

Discussion

Delusional disorder having the delusional content of parasite infestation has been described for long in the psychiatric literature. Ghosh[5] reported induced delusion of having syphilis in two members of a family. Our patient exhibited delusional parasitosis in the brain. He had the firm and unshakeable belief of parasitic infestation in his brain, and he even felt them to move around there. Thus, the delusional nature of his complaints is evident.

This syndrome may occur as the sole psychologic disturbance, or it may be associated with an underlying psychiatric disorder or physical illness. Wilson and Miller[6] divided their patients with this syndrome into four aetiologic categories: toxic psychoses, schizophrenia, involutional melancholia, and paranoid disorder. The paranoid disorder is the class most likely to manifest the monosymptomatic delusions of parasitosis.[6] Two common types of the syndrome are those involving the skin and intestine. In almost all cases, skin delusions of parasitosis (dermatozoenwahn) is monosymptomatic since there is no evidence of psychotic ideation in other areas of their lives.[7]

It is generally considered to be a rare syndrome. Retterstol[8] reported an incidence of 0.4% of hypochondriacal psychoses. This syndrome usually occurred in the elderly, and over 70% of affected patients were male.[6] Majority of case reports pointed to delusional belief of worm or parasite infestation on or inside the skin. Some of the cases also described delusional belief of parasite infestation inside their mouth or oral mucosa,[9] and also in intestines.[10] We made an extensive search in the PubMed about delusional parasitosis with delusional belief of parasite infestation in brain, but we found no such reports. Our case describes one such patient.

Wilson and Miller[6] reported the treatment prognosis of their patients as “almost hopeless”, with over 80% of patients remaining unchanged before the introduction of various neuroleptics. Literature has pointed to the efficacy of pimozide, a typical antipsychotic,[11] though recent literature also have shown favourable response to atypical antipsychotics like risperidone.[12]

Conclusion

In this case, we have reported about the rare presentation of delusional parasitosis with beliefs of worms in the brain. It remains to be investigated whether this condition is similar or distinct from delusional parasitosis of skin.

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