Delusion of death in a patient with dementia: a case report

Delusion of death in a patient with dementia: a case report and literature review

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Abstract
The delusion where one believes that they have died is a rare psychopathology. It has been described as a part of Cotard's syndrome and is associated with psychiatric and neurological illnesses. Here we present a case of a 97-year-old male patient who experienced this delusion with a background of long-standing dementia with hearing and vision impairment. There were no associated psychiatric symptoms, including depression. Few days after the onset of the delusion, he had a stroke and hemiplegia; and he passed away within a month. We discuss the presentation and provide a description of the related literature.

Key words: Aged, Delusion, Death, Dementia,

Introduction
The delusion of death, in which a patient believes that they have died is a rare form of psychopathology that is often associated with hypochondriacal and nihilistic delusions as a part of Cotard's syndrome.[1,2] Although the belief, 'I am dead' has been reported in various psychiatric and neurological conditions, it is infrequently reported in dementia.[3] In addition, when reported, it is commonly accompanied by other psychopathologies,[4] particularly depression.[5] We present here a patient with dementia who developed the delusion that he is dead which was not associated with depression or other psychiatric symptoms. We discuss the observations of the case along with a description of the relevant literature.

Literature Review

Psychopathology

Cotard's syndrome encompasses a range of psychopathology ranging from hypochondriacal and nihilistic delusions, denial of the existence of body parts, delusion of having lost one or more organs, to negation of

self-existence or even the entire universe; at the extreme, there are beliefs that everyone in the world has died or been destroyed.[6,7] Although it was initially described in 1880s, as 'hypochondriac delusion", subsequent terms such as "delusion of negations" and "Cotard delusion" have been used.[2] Cotard's syndrome is an uncommon condition.[3,6] Specifically, the psychopathology of negation of self-existence or 'delusion of death' is a rare observation in clinics.

It has been suggested that symptoms related to Cotard's syndrome present in three groups: (a) psychotic depression, which include patients with melancholia and few nihilistic delusions; (b) Cotard type I, which has no prominent depression or other disorders, and is closer to the delusional than the affective disorders; and (c) Cotard type II, which is a mixed group with anxiety, depression and auditory hallucinations.[5] Categorising the symptoms into these groups may improve our understanding of their presentations and have therapeutic implications.

Psychopathologies associated with death have been described in patients with dementia. There have been reports of the delusional beliefs of wasting and dying.[8] Patients might forget that their relatives have died, and insist that they are alive. There are also reports that after the death of the spouse, patients believed their parent has died, leading to "delusions of double mourning".[9]

Cotard's syndrome, or the delusion that unidentified somatic symptoms signify death or deterioration, has been described in a related presentation of "somatic symptom disorder" in patients with semantic and Alzheimer's dementia. It has been associated with misidentification and preoccupation with normal bodily sensations, such as hunger, bladder filling, stomach rumbling, rhinorrhoea, and reflux as well as excessive concern over the incompletely understood meaning or source of pain or other symptoms.[10]

Associated conditions

The diagnostic systems do not classify Cotard's syndrome as a distinct disorder.[2,3,11] Cotard's syndrome presents as a manifestation or secondary syndrome of another disorder, most commonly severe depression,[11–13] unipolar depression, bipolar depression and primary psychotic disorders.[3] It has also been reported with

intellectual disability, postpartum depression, depersonalization disorder, catatonia, Capgras syndrome, Fregoli syndrome, Odysseus syndrome and Koro syndrome.[2]

In addition, various neurological conditions have been reported alongside Cotard's syndrome such as migraines, subdural haemorrhage, cerebral atrophy, frontotemporal atrophy, cerebral arterio-venous malformation, multiple sclerosis, cerebral infarction, superior sagittal sinus thrombosis, brain tumours, parietal lobe tumour, epilepsy, temporal lobe epilepsy, Parkinson's disease, metabolic encephalopathy, encephalitis, and traumatic brain injury.[2,7,11] Cotard's syndrome has also been reported as an adverse drug reaction to aciclovir and its prodrug valaciclovir.[1]

Interestingly, although Cotard's syndrome has been reported in dementia,[8,13] this is infrequent.[3,6] In a case series of Cotard's syndrome, none of the patients had a diagnosis of dementia although many had neurological problems.[7] The syndrome is more commonly associated with depression or other psychiatric conditions in patients with dementia.[6,8,10] .

Treatment

There have been reports of successful treatment of Cotard's syndrome with antidepressants, antipsychotics, or lithium monotherapy, as well as combinations of antidepressant and antipsychotic drugs.[2,11,12,14] Electroconvulsive therapy has also been effective, especially when the underlying condition is taken into account.[2,13,14] Behavioural therapy, psychotherapy, rehydration, and removal of offending drugs are other modalities of treatment which have also been utilised.[7] It is apparent that based on the predominant psychopathology different classes of psychiatric drugs have been tried, mostly antidepressants[12] and antipsychotics,[15,16] including ECT[13,17,18] with positive therapeutic effect.[14] This may suggest the usefulness of categorising the symptoms of Cotard's syndrome.[5]

Case history

A 97-year-old Indian man was suffering from dementia for over 10 years, with a severe degree for the past three years. He experienced a gradual decline in his cognitive functioning, with impairments in both short and long-term memory, although short-term memory was worse. He had impaired orientation to time, place and person. He had difficulty with facial recognition, partly exacerbated by impaired vision due to presbyopia, age-related macular degeneration, and a cataract which was operated on when he was 93 years old. In addition, he had age-related hearing loss for more than 10 years. His other diagnoses included chronic kidney disease, mild dysphagia, and idiopathic constipation. He did not have diabetes or hypertension.

On the above background, one day, the man called his family members, who had been caring for him, and told them, “I have died”. He asked his son to invite other family members, as is customary when someone in the family passes away. Later, he checked with his son as to why he has not invited others to follow their customs and rituals. The man also said that his wife, who had died years ago, had come and invited him to accompany her to heaven. It was not clear if he had experienced a visual hallucination or if it was a delusion. He continued to believe that he had died. There was no change in his behaviour and he continued his activities of daily living as usual with the help of his family members, while continuing to experience the delusion of being dead. There was no hallucinatory behaviour, although he mentioned talking to his son, who in fact was living in a different place. There was no belief about loss of organs, body parts or changes in his body.

During this period, the man did not exhibit any acute confusion or signs of delirium. He expressed his belief of being dead in a matter of fact way. There were no associated depressive or psychotic features. This presentation continued intermittently for a few days. His family caregivers did not discuss or participate in a conversation with him regarding this thought; and verbal interaction was also difficult due to his profound hearing loss. After around 10 days of having the belief, his physical condition deteriorated further, he suffered a cerebral stroke with hemiplegia. Subsequently, further evaluation about his belief of being dead was not possible due to his medical condition. He passed away within one month of the first report of his delusion of death.

He was being cared for at his family home, by family members, throughout this period. He was not taking any medication for dementia or for this delusion; he did not receive any antipsychotic or antidepressant

medications. He was, however, on medications for his physical illnesses, which were prucalopride for chronic constipation, hydrochlorothiazide for pedal oedema, acetylcysteine-taurine and alpha-ketoanalogue for chronic kidney disease.

Discussion

In the presented case, the delusion of death was observed for the first time at the age of 97 years, with the background of dementia, visual and auditory impairment and no history of psychosis. We did not find any other case reports of more elderly patients with delusion of death.

Behavioural and psychological symptoms are common in dementia,[19] and can include delusions and hallucinations.[20–22] It is noted that people with previous or concomitant psychiatric problems are more likely to present with psychotic symptoms;[20] however in the presented case there was no history of psychiatric illness, other than dementia. He suffered from dementia for more than 10 years and had no associated psychotic symptoms, nor other psychiatric problems including depression or specific behavioural issues. Whereas in Cotard's syndrome, usually various other psychiatric symptoms have been observed, e.g. depressed mood, anxiety, delusions of nihilism, guilt, immortality, hypochondriasis,[3] and the delusional belief of wasting and dying.[8] Most cases of Cotard's syndrome in dementia also presented with depression.[12,13] So this isolated delusion of death in the presented case cannot be seen as secondary to depression; it was more like the type I of Cotard's syndrome as previously suggested,[5] a primarily psychotic presentation without any affective component.

The patient had profound hearing loss for many years. Hearing impairment is known to be associated with psychosis,[23] and neuropsychiatric symptoms in older adults with cognitive impairment.[24] However, in this case, there were no pre-existing paranoid beliefs or delusions. We did not find any report linking hearing loss with Cotard's syndrome or specifically delusion of death. Vison impairment may lead to difficulty in recognising people, which was observed in this patient. However there were no delusions of misidentification or Capgras delusion. There is a case report of nihilistic delusion of being dead in a patient with complete vision loss due to bilateral occipital infarct following haemorrhage and cerebral ischemia.[25]

There are reports of patients with Cotard's syndrome with associated behaviours such as refusal to eat, take medications or engage with treatment.[11] However, in the case presented here, the patient did not act on their belief that they were dead. The delusion did not appear to have any influence on his daily activities.

Interestingly, the patient was not receiving any medications for dementia, nor was he started on any medication or intervention for this delusion. This is sometimes the case in many older adults and may have multiple reasons. Family caregivers may not fully comprehend the purpose or benefit of interventions for those with dementia, even in initial stages. In addition, as there was no concern or impact of behavioural or psychological symptoms on caregiving, the family may not have felt that there was a need for treatment.

Psychotic features in patients with dementia may indicate relative preservation of mental function;[20] however, they may also predict cognitive and functional decline.[21] Hallucinations, in particular, have been associated with institutionalization and mortality;[21,26] whereas in Alzheimer's disease, delusions and misperceptions were not strongly related to cognitive decline or mortality.[26] In the presented case, within days of the onset of the delusion, the patient's health deteriorated, leading to a stroke and subsequent hemiplegia, followed by death. Besides advanced age, there were many physical factors for increased risk of death; and in this background, the temporal relationship of the onset of delusion and the stroke could be a chance factor. However it is also reported that dementia-related psychosis,[27] and very-late-onset psychosis,[28,29] have higher mortality. The emergence of psychotic symptoms in patients with no such previous history may alert clinicians and caregivers to the possibility of impending deterioration. However, further exploration and study are necessary to better understand this phenomenon.

Conclusion

In the presented case, the delusion of death appeared late in a 97-year-old male patient with dementia. This was the only psychotic feature, in the absence of any other psychiatric manifestations, including depression. The patient had long-standing hearing loss and visual impairments, but no behavioural manifestations were associated with the delusion of being dead. This case highlighted that the onset of psychotic symptoms may

happen late in the oldest olds with dementia and long-standing sensory loss. The occurrence of a stroke, hemiplegia and death within a month of the emergence of the delusion suggests it may indicate a deterioration in the disease process.

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