

# Case Report: Psychotic Depression with Pseudodementia Misdiagnosed as Dementia Remitted with TCA

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**Abstract:** Epidemiological research has indicated that elderly patients with depression are at increased risk of subsequent dementia including Alzheimer's disease. In addition, several studies have also shown that depressive pseudodementia may well develop into irreversible dementia. It is a matter of course, however, that all depressive patients with pseudodementia do not progress to irreversible dementia. The present case is an elderly woman with psychotic depression who was misdiagnosed with dementia because of poor response to serotonin selective reuptake inhibitor (SSRI) and serotonin and norepinephrine reuptake inhibitor (SNRI) as well as a manifestation of moderate cognitive impairment. She was remitted with pharmacotherapy by tricyclic antidepressant (TCA), with no cognitive problems. Psychiatrists should take care not to give too much weight to certain evidence that pseudodementia is a strong predictor of dementia, and should observe individual depressive patients carefully and treat them in any possible way including with TCA or electroconvulsive therapy.

**Keywords:** Depression, pseudodementia, dementia, tricyclic antidepressant.

## INTRODUCTION

Available epidemiological research has indicated that elderly patients with depression are at increased risk of subsequent dementia including Alzheimer's disease (AD) [1]. In addition, several studies [2, 3] have also shown that depressive pseudodementia is a strong predictor of irreversible dementia. However, it is a matter of course that all depressive patients with pseudodementia do not develop irreversible dementia. We report a case of an elderly woman with psychotic depression who was misdiagnosed with dementia probably because she responded poorly to serotonin selective reuptake inhibitor (SSRI) and serotonin and norepinephrine reuptake inhibitor (SNRI), and exhibited moderate cognitive impairment. She was remitted with pharmacotherapy of tricyclic antidepressant (TCA), with no cognitive problems. Herein we discuss what to consider and how to treat depressive pseudodementia patients.

## CASE REPORT

A 72-year-old woman operating a handicraft shop complained of insomnia and visited a geriatric hospital. She had no personal history of psychiatric or medical illnesses and no family history of psychiatric illnesses. She was prescribed sulpiride and improved soon. Five years later, she stopped the medication and became depressive, anxious and insomniac. She said, "My family told me not to eat and drink," and "I have to

receive punishment," and she refused to eat meals. She was diagnosed with depression and was admitted to the geriatric hospital for two months. Intravenous clomipramine improved her symptoms. After discharge, oral clomipramine at 100mg/day was continued for two months to maintain her remission, and was replaced by sertraline at 50mg/day because she complained of dry mouth.

Two months later, she was readmitted, as she refused to take food and medicine, and said, "I will have all my possessions taken from me due to my guilt." In addition, she stated that her admission would bring about a fire or a flood to the hospital, that she was being chased by police on a charge of wasting hundreds of millions of yen, and that she was already dead. Her family received information from her attending doctor that the Mini-Mental Status Examination (MMSE) result showed moderate cognitive impairment and that she might have dementia besides depression. Duloxetine at 20mg/day and paroxetine at 30mg/day were prescribed. She could then take food and medicine, but her delusional complaints did not change. Brain MRI showed mild cortical atrophy in frontal and temporal lobe, mild hippocampus atrophy and several lacunar infarctions. After two-month-treatment for depression, the doctor told her family that she might well have irreversible dementia despite the treatment, and recommended that she enter a group home for those with dementia. Her family did not agree, and brought her to our hospital immediately after her discharge.

At the first examination, she exhibited a markedly depressive mood, inactivity and inhibition of thought.

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She also said, "I experienced hell on earth in the previous hospital and my life was once over," "I cannot pay hospital cost because I have wasted so much," and "I can do nothing but go home and die." She was diagnosed with psychotic depression with pseudodementia and was admitted to our ward. Oral clomipramine was started instead of duloxetine and paroxetine, and dosage was gradually increased to 100mg/day. She became cheerful and active, and all her delusional thinking disappeared. Although mild dry mouth occurred, she controlled it by herself. No other adverse events were seen. With respect to cognitive function, MMSE showed full marks of 30 points, and total IQ shown by revised-Wechsler Adult Intelligence Scale was also quite normal at 105 points. No cognitive problems in her daily life were observed. After one month of treatment, she was discharged. Since then, about three years have passed, and at the age of 81, she remains in remission with no cognitive impairment.

## DISCUSSION

In this case, although both depressive and delusional states actually persisted, seemingly moderate cognitive impairment induced by pseudodementia was falsely diagnosed as irreversible dementia. This diagnosis appears to have been based on the fact that antidepressant therapy by SSRI and SNRI was not effective for two months, as well as some reported evidence [2, 3] that pseudodementia is a strong predictor of irreversible dementia. Indeed, a number of studies [1, 4, 5] have indicated that patients with elderly depression are likely to progress to irreversible dementia, and above all, patients with pseudodementia more likely do so, but it is also well understood that considerable numbers of patients with pseudodementia never develop dementia [6]. It would be clinically unacceptable if depressive patients are easily diagnosed with dementia just because they respond poorly to antidepressant therapy and display some cognitive decline. What appears to be of primary importance for psychiatrists is to observe individual patients' symptoms carefully, and treat them as adequately as possible if they look depressive with or without delusion.

In the present case, mood-congruent psychotic symptoms such as delusion of guilt, poverty and negation were observed as well as depressive symptoms. These are typical of psychotic and melancholic depression and are not at all indicative of dementia. Of patients with AD, for example, delusion of robbery or jealousy is typical. However severe the

cognitive impairment seems to be, the kinds of delusions seen in this case are considered to be very rarely accompanied by dementia. The brain MRI revealing mild cortical and hippocampal atrophy does not typically suggest the development of AD, and such brain findings are not uncommon in patients with depression. These markedly melancholic symptoms and mild brain impairment in elderly patients appear primarily indicative of depression. More definitive reasons are needed for diagnosis of such patients with dementia,

Nowadays, SSRI, SNRI or NaSSA (noradrenergic and specific serotonergic antidepressant) are dominantly used in the treatment of elderly depression. TCA, which provided remission for this case, is usually not recommended due to possible adverse effects such as anticholinergic and cardiovascular effects. It is not uncommon that anticholinergic effects induce cognitive decline or delirium. As seen in this case, however, TCA sometimes has a dramatic therapeutic effect on non-responders to SSRI, SNRI and NaSSA. Such effect on elderly depression appears similar to that of electroconvulsive therapy (ECT) [7]. From the viewpoint of the treatment of psychotic depression, Swartz and Shorter [8] recommended TCA as well as ECT for 'melancholic dominant' psychotic depression. TCA should be the last pharmacological option before administering ECT in the treatment of delusional and non-delusional elderly depression, as long as careful attention is paid to its potential adverse events.

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