

CASE REPORT

Semiological Differences between Late-life Schizophrenia and Senile Dementia

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(Received for publication on July 9, 2012)

(Revised for publication on January 21, 2014)

(Accepted for publication on February 20, 2014)

(Published online in advance on June 10, 2014)

It is sometimes difficult to distinguish late-life schizophrenia from senile dementia because elderly patients with schizophrenia can present in chronic remission and show gradual cognitive decline with aging. We aimed to elucidate the semiological characteristics of late-life chronic schizophrenia. Three patients aged between 60 and 66 years who were admitted to our hospital were included in this study. Detailed history taking and psychiatric interviews were performed and reviewed in the light of psychopathological semiology. Although the three patients with late-life schizophrenia showed significant cognitive decline on the Hasegawa dementia rating scale and their negative symptoms mimicked dementia, the following psychopathological characteristics clearly differentiated them from patients with senile dementia: (1) a shift of temporal organization toward the future with intact memory, (2) hypersensitivity, (3) ambivalent personal relationships, (4) systematic bodily delusions, and (5) an *ante festum* mindset. Identifying such clinical features of patients with late-life schizophrenia could be important for developing more effective pharmacotherapy and for providing appropriate psychotherapy. (doi: 10.2302/kjm.2012-0009-OA; Keio J Med 63 (2) : 34–38, June 2014)

Keywords: schizophrenia, dementia, aging, geriatric psychiatry

Introduction

Elderly patients with schizophrenia may be misdiagnosed as having dementia. Cognitive functional decline related to aging accelerates with schizophrenia and it becomes hard to determine the contribution of the original disease. In the clinical setting of a psychiatric hospital, it is often difficult to appropriately differentiate late-life schizophrenic patients from those with dementia, such as that resulting from Alzheimer's disease. We examined the psychopathological features of late-life schizophrenia and performed a semiological comparison with dementia in the present study.

Cases

We selected three patients who were aged between 60 and 66 years and who had been hospitalized for more than 30 years since the onset of schizophrenia from among the patients admitted to our hospital. The positive and negative syndrome scale (PANSS),¹ the mini mental state examination (MMSE),² and the revised Hasegawa dementia scale (HDSR) were used to evaluate the patients. The daily doses of antipsychotic medications were calculated on a chlorpromazine equivalent basis. All patients underwent a brain computed tomography scan and magnetic resonance imaging, which revealed no abnormal findings except for age-appropriate mild cerebral atrophy. All patients underwent single-photon emission computed tomography, which revealed no significant re-

duction of blood flow in the parietal or temporal lobes. We did not perform cerebrospinal fluid tau measurement. All patients were evaluated using the clock drawing test, Raven's colored progressive matrices test, the revised, the Alzheimer's disease assessment scale, the Stroop test, and the trail making test, the results of which were within normal limits. This retrospective and observational study was approved by the Gunma Hospital Institutional Review Board. Informed consent and permission for release of information were obtained from each patient. We took special precautions to protect the privacy of the patients.

Case 1

This 60-year-old woman was the fourth of four siblings. Her family history was unremarkable. She graduated from high school and began to work as a clerk. She married at 25 years old. Delusions of persecution such as "Somebody is speaking ill of me and harming me" began when she was 29 years old, after which she was hospitalized with the diagnosis of paranoid schizophrenia. She had repeated episodes of psychomotor excitement which required protective isolation and episodes of catatonia that required electroconvulsive therapy. Her problems included excessive telephone calls, irritability, demand repetition, stereotypic postural abnormality, and pouring water on the floor. Regarding the latter activity, she said that she must put out a fire because there had been a fire that affected four neighbors when she was a primary school child. She put her finger in a glass filled with water to "dissolve the spirit of her finger" and poured the water on the floor. She would call her deceased husband on the telephone and when she was unable to talk to him, she would shout into the phone, hang up, or even break the telephone. On one occasion, she wrapped clothing around her head and said with a smile that it was a new fashion, after which she shouted sullenly that she wanted to be left alone. She said the reason for wrapping a towel around her head was to protect her hair from being shaved by a deaf man. She demanded that we change her meals to "normal" meals (even though she was eating a normal diet), that she be allowed to do her own make-up, and that she be allowed to take fewer medications because the drugs caused wrinkles. She would not admit that she had no teeth and said that she was dying because of suffocation at meal times. When her demands were not met, she began to make wild statements such as "Sputum, what curse with judgment, a fool doc, the bean jam of this junior high school graduate pop." After her nails were cut, she would not go back to her room and would remain standing still in the corridor with her neck bent. After being unresponsive, she would suddenly come back to this world. When asked what she was doing, she replied that it was not possible for her to move, which suggested blocking of thought.

The patient's PANSS positive score was 33 points, her PANSS negative score was 37 points, and her general psychopathologic score was 46 points. Her MMSE score was 14 points and her HDSR was 18. Her medications were equivalent to 1100 mg/day of chlorpromazine.

Case 2

This 62-year-old woman was the fifth of six siblings. Her family history was unremarkable. When she moved to an international school at 15 years old, she developed inappropriate laughter, monologues, and poriomania. She was diagnosed as having hebephrenia and was admitted to a locked protective ward when she was 19 years old. Auditory hallucinations and delusions were usually not prominent, but she actualized her situation and sometimes became threatening. She spent the daytime lying in bed with a towel over her face. In the evenings she was relatively active, but her movements were slow without Parkinsonism. She complained that her mouth went upward, her tongue did not work, her eyes melted when she overslept, she was sleepy in the daytime, her fingers had shrunk, her fingers were variously shorter or longer, she developed a runny nose when she drank water, and her nose was blocked. She often walked the corridor after plugging her nasal cavities with paper. Autism, abulia, and flattened affect were observed.

Her PANSS positive score was 27 points, her negative score was 31 points, and her general psychopathologic score was 36 points. Her MMSE score was 13 points and her HDSR was 16. Her medications were equivalent to 1750 mg/day of chlorpromazine.

Case 3

This 66-year-old woman was the second of three siblings. There was a history of mental illness in her father's family. After graduating from high school, she began to work and she got married when she was 23 years old. Bizarre thoughts and statements like "There is something buried in the garden" were first noted when she was 20 years old. She was divorced when she was 30 years old. At the age of 32, she began complaining of electricity being transmitted to her, that correspondence was annoying, and that there were lots of spirits around. She became violent towards her mother and then was hospitalized with a diagnosis of delusional schizophrenia. She has remained in hospital since then. At the time of the study, she was not talking about hallucinations or delusions, but she showed abulia. She walked back and forth along the corridor. She constantly remained aloof and did not talk with others even if they come close to her. Sometimes she complained about delusions of persecution. She said "Somebody made fun of me. Somebody made my hair solid at midnight. Is it fun? It is murder. I am getting

sicker because I am cursed.” Communication with others was poor because she mainly spoke to herself. A flattened affect and abulic state were apparent.

Her PANSS positive score was 27 points, her negative score was 32 points, and her general psychopathologic PANSS score was 44 points. Her MMSE score was 18 points and her HDSR was 22. Her medications were equivalent to 600 mg/day of chlorpromazine.

Discussion

Late-life schizophrenia and dementia

To distinguish late-life schizophrenia from dementia secondary to Alzheimer’s disease, the clinical picture of late-life schizophrenia showing hebetude and indifference has historically been called *Verblödung*. Kraepelin classified it into six types: hallucinatory, confused, blunt, foolish, manneristic, and refusal.³ The three cases presented in this article could be classified using these six types. Although the semiology of late-life schizophrenia superficially mimics that of dementia, in late-life schizophrenia intelligence is preserved, and this was termed *démence vesanique* by Baillarger,⁴ *démence incoherent* by Leuret,⁵ affective *Verblödung* by Bleuler (who put the emphasis on affect),⁶ and *démence pragmatique* by Minkowski (who reported that patients were unable to utilize knowledge even though it was not lost).⁷ Some patients with late-life schizophrenia may also have dementia, so Claude et al. used the term *schizomanie* and applied the name of dementia praecox to advanced schizophrenia patients mainly with hebephrenia.⁸

Dementia generally differs from late-life schizophrenia with respect to the nature of the delusions. It is well known that the delusions of demented patients are based on memory impairment and cognitive deficit and frequently include delusions of theft or phantom boarders.⁹

In Case 1, delusions of persecution were present from a young age and gradually changed into absurd delusions later. Case 2 had paranoid delusions related to the mouth, eyes, nose, and fingers. In Case 3, a prominent part of the clinical picture was persecutory delusions related to her hair and body. Physical hypersensitivity and systematized delusions were common among the three patients. These delusions seem to be different from the delusions of patients with dementia, which tend to focus on theft, injury, and outside noise and are closely related to daily life.

The MMSE scores of our three patients were 18 or less, which meet the criterion for dementia. However, the patients correctly answered questions involving memorizing, retention, retrieval, orientation, and calculation, but they were unable to answer questions about semantic verbal fluency using vegetables as the category. Thus, it is evident that the MMSE results are different between

these three chronic schizophrenic patients and patients with Alzheimer’s disease who present with significant cognitive decline centered in amnesia and visuospatial deficit.¹⁰ Also, as observed in our three cases, institutionalized schizophrenic patients demonstrated an age-related pattern of MMSE score different from that observed for Alzheimer’s patients, and the cognitive and functional status of these schizophrenic patients was fairly stable until late life, reinforcing the finding that cognitive decline may not occur in younger patients over an interval as long as 6 years.¹¹

It is not uncommon for late-life schizophrenics to have fewer hallucinations and delusions and to reach a stable state with late remission. They tend to maintain the negative symptoms reported by Crow,¹² such as a blunted affect, slow thoughts and activities, mutism, abulia, poverty of conversation, and social withdrawal. Patients cannot control themselves well, explode with anger for trivial reasons, and employ stereotypy to avoid changes.

Impairment of personal interaction, such as the poor interpersonal contact and misanthropy documented by Strauss,¹³ was observed in our three patients. They often spoke to themselves and did not show meaningful empathy to others.

Personality structure of late-life schizophrenia

Elderly schizophrenics are characterized by resilience, toughness, and poverty of communication skills and by the sensitive capability of comprehending subtle signs.¹⁴ They have suffered from exceptional experiences because their acute psychosis was a time of physical disturbance and a period of hypersensitivity. Therefore, their cognitive function has become vulnerable.¹⁵ On the other hand, their unique personality structure arises because these patients have survived long-term and difficult pathological experiences. This type of structure may involve personality reactions and result from self-help efforts over a very long time, even though it is poorly personality.¹⁶

Late-life schizophrenia often features abulia and autism. Sufferers are not much interested in others, they become autistic to protect themselves because they care extraordinarily about the views of others, and they show stereotypy. Binswanger considered that perverseness represented a lack of decency and consideration of mutuality and commonness with others. He also stated that the mannerisms associated with late-life schizophrenia involve self-deception, in which the patient cannot live their own lifestyle and overcome this issue by putting on an act. Thus, Binswanger identified failure of existentiality in schizophrenia.¹⁷ Personal relationships between the elderly schizophrenic and others are always ambivalent, with repetition of over-approach and over-withdrawal.

Schizophrenic patients often begin to experience hypoesthesia, i.e., decreased sensitivity and perception, deaf-

ness, and depersonalization because of disturbance of the ego. As the disease progresses, patients feel vague uncertainty and do not comprehend their surroundings well, with the sensory threshold being set low by inner hyperarousal, so that rather than hypoesthesia, hyperesthesia, i.e., increased sensitivity and heightened perception, and hypochondriasis become features of late-life schizophrenia.¹⁸

Patients with schizophrenia have often lived without a place of safety, while their position has been ambiguous and they have failed to find a purpose. Because they cannot project themselves into the future and cannot pursue a career, they are continually anxious about their future. This psychopathology is the basis of their unique *ante festum* mindset, in which they cannot achieve self-realization in the present and they always try to anticipate the next event and forestall it.¹⁹ For example, Case 1 made repeated telephone calls to her deceased husband, not because she had forgotten his death but to block the desire to see him again; she seemed to try hard to avoid factors tying her to the real world. The term *antegrade dementia* has been used for cognitive impairment of schizophrenics in the opposite time direction to that of general dementia, meaning that the past memory is maintained and the future cannot be foreseen.²⁰

Therapeutic approach

The need to treat schizophrenia is self-evident. The disease affects the whole human being, and so both psychotherapy and psychopharmacology are used. Psychiatrists often encounter schizophrenic patients with medical or surgical complications who tend to show stabilization of their psychiatric symptoms. Matsumoto contended from the standpoint of psychopathology that the role of pharmacotherapy is to regain the physical body of a disorganized psychosomatic patient.²¹ The first task is to control physical illness and to adjust the body and mind.

Although we do not yet have effective pharmacology for schizophrenics with advanced disease and negative symptoms, we are anticipating new therapeutic approaches from regenerative medicine and neuroneogenesis. Also warranted are effective drugs that block or modulate the *N*-methyl-D-aspartate receptor, which plays a significant role in the semiology of schizophrenia.

We also need continuing development of psychotherapy and cognitive behavioral therapy to address the social isolation, stress, and affective reactions of late-life schizophrenia.²² Kobayashi et al. pointed out that senile hallucinations and delusions are often derived from factors in the everyday lives of the patients, such as solitude, independence, and loss of a sense of place, and stated that it is a psychosocial imperative to restore a dependable sense of place when we considered the therapeutic strategy for elderly schizophrenics.²³

In summary, there are similarities and differences between elderly patients with schizophrenia and those with dementia. By removing and integrating the modifying factors that accumulate with aging, it is possible to clarify each patient's semiology and personality structure. Describing the clinical characteristics of late-life schizophrenia as distinct from those of Alzheimer's disease may eventually contribute to the creation of an effective therapeutic strategy for the psychopathology and pharmacologic abnormalities of schizophrenia.

Acknowledgment

We are sincerely grateful for the dedicated assistance of Ms. Sakiko Hirabayashi during preparation of this manuscript.

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