Psychotic features are frequently seen in dementia patients, which indeed cast a huge psychological and physical burden onto their care givers. This is especially true for delusions and hallucinations. If inquired into in greater detail, some of the delusions and even hallucinations can be found to arise from plausible origins. In this article, the author reports two dementia patients, with an attempt to link the unique psychotic features to the personal history of the individual patient. In addition to biological predisposition, the background and the personal history of each patient may play a role in the development of such psychotic features. To emphasize the background of the patients and to treat him or her as a person is also the core spirit of medical humanity, which is an issue important for dementia care. The author also discusses the two topics: visual hallucination in patients with dementia with Lewy bodies and the genetic polymorphism of dopamine D2 receptor gene in dementia patients with delusions. If clinicians spend more time to understanding the history of their patients, at least some of the need to use medical treatment can be reduced.

Delusions and hallucinations are not uncommon in patients with dementia of various etiologies (Bassiony et al. 2003). The presence of such symptoms caused much distress to both patients and their care givers. The nature of the delusions and hallucinations which occur in dementia patients are unlike the nature of those which occur in other clinical situations, such as schizophrenia or alcoholism, when they are usually bizarre, unreal and frightening.

The clinical manifestations of patients with Alzheimer’s disease (AD), especially in the early stages of the disease, are quite different from one to another. In addition to the biological factors, the personal history of each patient may play an important role. This may reflect what Mesulam M-M mentioned in the textbook “Principles of Behavioral and Cognitive Neurology”:

The passage of time may improve the quality of wine, but only wines of certain pedigrees age well, and even then only if the aging occurs in an optimal environment. Eventually, the laws of thermodynamics prevail and even the best wine spoil, but the time to maturity and the number of years elapse before the onset of deterioration may range from a few to a hundred years, varying

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greatly from wine to wine as well as from harvest to harvest. (Mesulam 2000)

In this article, I will report the clinical history of two dementia patients and the psychotic features of dementia patients in two different clinical settings, with an attempt to explore the importance of medical humanity when health care is provided to such patients.

Presentation of Patients and Clinical Settings

Patient A: An as-yet-unrealized wish

A 68 year-old gentleman who had been a successful businessman, rang a lady up again and again. He told the lady that he could marry her now because her husband had died in an air crash recently. She was in fact a girl whom he had loved deeply since he was young when both of them began their career as dental assistants. It was certainly a nuisance to the lady’s family, while initially the family of the patient thought it was true. His relationship with his wife and family members was reported as normal for Taiwan.

The patient was graduated from a junior high school and had no family history of dementia. On his first visit in 2005, his Mini-mental State Examination (MMSE) (Folstein et al. 1975) score was 21/30 and his Cognitive Ability Screening Instrument (CASI) (Teng et al. 1994) score was 69/100, with deficits on the items of recent memory and verbal fluency. His cerebral blood flow study by HMPAO-SPECT showed hypo-perfusion in the frontal lobes in addition to temporal and parietal lobes. The patient was diagnosed as having AD. He was placed on Donepezil 5 mg per day and no antipsychotic agents were used.

When asked recently, he admitted, he still had impulses to call her intermittently.

Patient B: A romantic fantasy?

According to the daughter of a 69 year-old lady, her mother, over the past months intermittently showed her a name card she had kept for a long time. The name card had been given by a young professor who had taken care of her about 20 years ago when the mother left her family after a severe quarrel with her husband. The young professor was teaching at a college located in central Taiwan, 150 kilometers away from the patient’s home. At that time, the young professor promised assured her that if she needed help she should just dial the phone number printed on the card. She had kept the card and would say that she regretted not having gone to the young professor’s place each time she was unhappy with her husband. She never told this story to anyone in her family over the past decades until recently when she began to have impairment of recent episodic memory and was diagnosed as having probable AD.

If the history was not verified, the statement of the patient would be very likely treated as a delusion.

Clinical setting A: Visual hallucinations in DLB patients

Visual hallucination (VH) is among the core symptoms in patients with dementia with Lewy bodies (DLB) (Harding et al. 2002). Its high incidence provides helpful information to make a diagnosis of DLB. In a recent study, Lin et al. (2008) found that more female than male DLB patients had experienced VH of children. These patients, comprising 17 men and 33 women, came from a special clinic of dementia and 43 (86%) of them had VH, including 15 women (Table 1). Among the patients with VH of people, 11 of 12 female patients had VH of children, while only 12 of 24 male patients had VH of children (p = 0.025, Fisher exact test, two-tailed). They frequently described a child or several children playing in the living room. Some of the patients even prepared sweets, food or drinks for the imaginary children. They showed no fear toward the VHs and, on the contrary, one of the patients said she enjoyed the hallucinations.

Clinical setting B: Genetic polymorphism and delusions

Recently, Chen et al. (2008) studied the psychotic and behavioral symptoms of 189 AD patients with Behavioral Pathology in Alzheimer’s Disease (Behave-AD) Rating Scale (Reisberg et al. 1996), and found that as many as 49% of the
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patients were reported having delusions as the assessments were done. The mean age of the population was 76.6 years (s.d. = 7.9 years), mean education 5.4 years (s.d. = 4.9 years), MMSE score 14.7 (s.d. = 6.4), and CASI total score 53.4 (s.d. = 21.1). Delusions of jealousy were detected in 16% of the population. The authors analyzed the genotypes of dopamine D2 receptor (DRD2)-141C polymorphism of the population. The human DRD2 gene has a -141C insertion/deletion (Ins/Del) polymorphism in the promoter region. They found that among the 189 AD patients, 127 had a genotype of Ins/Ins, 59 with Ins/Del and 3 with Del/Del. Further analysis showed that the presence of DRD2-141C Ins/Ins genotype was closely associated with the occurrence of any subtypes of the delusions ($p < 0.05$). Its presence was also associated with the occurrence of delusions of jealousy ($p < 0.05$).

**COMMENTS**

What is medical humanity? Here, I quote a statement from W. Jake Jacobs, who is now a professor in psychology at the University of Arizona. “The word “humanity” also refers to being humane; those behaviors towards others that befit their status as a human being. This has to do with civility, courtesy, politeness, good behavior, and kindness as shown in courteous or friendly acts. I suspect that Medical Humanity is being used in the second context. What Medical Humanity means in that second context is that while being a physician is a technical profession - physicians are also dealing with real people who have the qualities and conditions associated with being human. As such, those real people deserve to be treated, not only with competent professional care, but also with civility, courtesy, politeness, good behavior, and kindness. Sometimes, at least according to popular culture, physicians become competent technicians but forget about the humanity of their patients.”

To date, there is no cure for AD and most other dementias. More humanity thus should be conferred upon the patients because doctors have no way to show their competence by curing the dementia. The reality, however, is that not all doctors have this insight. This raises a question: To what extent, have doctors been neglecting their dementia patients?

Although delusions and VHs are not infrequently seen in patients with dementia, their presence, however, is usually only confirmed by observers and other informants, and the diagnoses of them are made by doctors. The presence of such psychotic features is often, if not always, related to the personal history of the patients. The aforementioned cases are two examples.

Regarding the DLB study in which VH of children appeared more frequently in female

<table>
<thead>
<tr>
<th>All patients, $n = 50$</th>
<th>Male, $n = 33$</th>
<th>Female, $n = 17$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td>76.3 ± 7.9*</td>
<td>78.5 ± 4.5</td>
<td>0.221</td>
</tr>
<tr>
<td>Onset age, years</td>
<td>73.4 ± 8.3</td>
<td>75.3 ± 4.7</td>
<td>0.388</td>
</tr>
<tr>
<td>Education, years</td>
<td>8.8 ± 3.9</td>
<td>3.8 ± 4.6</td>
<td>0.000</td>
</tr>
<tr>
<td>CASI</td>
<td>48.5 ± 24.3</td>
<td>38.9 ± 16.8</td>
<td>0.110</td>
</tr>
<tr>
<td>MMSE</td>
<td>13.5 ± 6.7</td>
<td>10.5 ± 5.1</td>
<td>0.080</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patients with VH, $n = 43$</th>
<th>Male, $n = 28$</th>
<th>Female, $n = 15$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects</td>
<td>4 (14%)</td>
<td>4 (27%)</td>
<td>0.419#</td>
</tr>
<tr>
<td>Animals</td>
<td>6 (21%)</td>
<td>6 (40%)</td>
<td>0.287#</td>
</tr>
<tr>
<td>People</td>
<td>24 (86%)</td>
<td>12 (80%)</td>
<td>0.680#</td>
</tr>
</tbody>
</table>

Note: CASI: Cognitive Ability Screening Instrument; MMSE: Mini-mental State Examination; VH: visual hallucinations; *: mean ± s.d.; $t$-test for group comparison; #: Fisher exact test, two-tailed.
patients, some speculations can be made. Firstly, women are more sensitive toward the morphology or characteristics of children once they are produced in a form of VH. Secondly, women have spent more time with children in their lifetime and thus would be more susceptible to produce VH of children. Some of the kids they had hallucinated about were actually their own children when they were young. Finally, it is also likely that some of the women they had once lost a baby, babies or children for whatever reason, the fact of which had never been disclosed to others. Everyone has his or her own secrets which are never told to others until the owners of the secrets are suffering from dementia. The phenomenon can be thought as a symptom of dis-inhibition or from competition between recent and remote memories.

To each patient and his or her family, the development of dementia is a tragedy on one hand. However, on the other hand and more often than not, the family members say they are getting to know the person again (or for the first time) including what he or she likes, hates, as well as the happiness and sadness the person has experienced. This engenders a sense of humanity which results in the patient being treated as a unique individual. As the disease progresses, the patients lose their mind piece by piece. Nevertheless, the care-givers still need to keep treating the patient as a person, not a victim of dementia. Each patient has his or her own past history. This may be reflected in the diverse clinical manifestations in spite of an identical or similar neuropathology. The personal history may dominate or at least color and shape the clinical manifestations of a dementia patient, such as the delusions and VH discussed in this article.

The association of DRD2 gene polymorphism with the occurrence of delusions, especially delusions of infidelity, suggests further evidence for the contribution of biological factors in the production of psychotic features in AD patients. The exact reason why delusions of jealousy develop is unknown, although Chen et al. (2008) provided evidence of a genetic basis. Some patients, however, develop such delusions because their spouse had had an extramarital affair (Sibisi 1999). This again demonstrates the role of personal history in the development of delusions and perhaps in other psychotic features as well.

As mentioned in the introduction, apart from biological factors, the personal history of each patient plays a very important role in the clinical manifestations of dementia patients. When the patient’s history is probed in more detail, the diagnosis of delusion sometimes becomes questionable. If the care providers are concerned with medical humanity, they will deliver their care in a different way to each dementia patient. In addition to medication therapy, cognitive therapies such as the reminiscence approach and reality orientation have been proved an effective alternative or adjunctive therapy for dementia patients (Cotelli et al. 2006). The reminiscence approach may remind patients of their early life experiences and through appropriate reality orientation, some of the delusional thoughts can be partially eliminated. It is very likely that some psychotic features can be explained in part by the peculiar personal history of the patient. On this account, some medication for the psychotic features may turn out to be unnecessary.

In conclusion, medical humanity is indispensable in our daily medical practice, especially in the care of dementia patients. If it is missing or has been buried like an archeological relic, dig it up!

References


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