Understanding Dementia

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Introduction

Dementia is not a disease; it is a group of symptoms that signify there is mental deterioration to the point where there is a disturbance of everyday behaviors (Tuokko, Purves, & Baisley, 1993). Ebersole and Hess (1994) state that in dementia, the individual has lost their intellectual abilities to such an extent that their social or occupational functioning is interfered with. Although there are many different causes of dementia, the common feature of all forms is that brain function is disturbed because brain cells are no longer working properly. Alzheimer disease is the most common form of dementia (Golden, 1995, Mangino & Middlemiss, 1997, Drachman et al, 1991). Alzheimer disease represents approximately 50% to 60% of all dementia, affecting an estimated 4 million Americans (Mangino & Middlemiss, 1997). Vascular dementia is the second most common dementing condition, representing about 20% of all dementia; both conditions are irreversible (Drachman et al, 1991). Vascular dementia is also the most common condition mistaken for Alzheimer disease (Mangino & Middlemiss, 1997).

This paper will explore the concept of Vascular dementia and Alzheimer type dementia, examine the etiology of these dementias, including what is happening in the brain and the resulting behavior, illustrate some assessment criteria, and identify a problem-solving approach in dealing with some of the behaviors.

Etiology of Dementia

As already stated, there are many different causes of dementia. There are reversible dementias caused from infections, metabolic disorders, circulatory problems, medications, trauma, hearing and visual deficits, depression, and social isolation. Irreversible dementias include Alzheimer disease, Vascular dementia, Parkinson's disease, Pick's disease, Korsakoff's syndrome, Schizophrenia, and Huntington's Chorea (Ebersole & Hess, 1994). It is not the intention of this paper to explore all of these dementias, rather to focus on Alzheimer disease and Vascular dementia.

Studies have revealed that clinicians may fail to strictly follow diagnostic criteria and thus incorrectly diagnose a dementia. This can be tragic since some causes of cognitive impairment are fully reversible. Others, although irreversible, may have treatment that could slow or halt the progression of the condition (Mangino & Middlemiss, 1997). For example, Aspirin taken daily

can help to reduce the risk of recurrent brain attacks and can help reduce the incidence of small vascular insults as well (Preziosi & Stern, 1988).

In my clinical experience, clinicians will use the diagnoses of dementia and Alzheimer disease interchangeably. Rather, in my mind, dementia is to Alzheimer disease, what hypertension is to heart disease. In other words, if an individual has hypertension, it may be a warning signal that the heart is being compromised. Similarly, dementia provides early warning signals that there may be something more serious going on in the brain cells. The brain function is disturbed because brain cells are no longer working properly. The person with Alzheimer disease may be responding to the world on the basis of incomplete information.

What is happening in Alzheimer disease?

Alzheimer disease was described by Alzheimer in 1906 and is a cerebral degenerative disorder of unknown origin (Ebersole & Hess, 1994). Alzheimer disease is progressive, marked by dementia and the accumulation of cortical neuritic plaques and neurofibrillary tangles in excess of those found in normal aging (Ebersole & Hess, 1994, Snowden et al, 1997). The literature agrees that a CT scan that is consistent with Alzheimer disease shows enlarged ventricles and cortical atrophy (Mangino & Middlemiss, 1997, Drachman et al, 1991, Golden, 1995). Alzheimer disease is only diagnosed conclusively on autopsy, which reveals atrophy of cortical tissue (brain shrinks in size), a loss of cholinergic neurons in the limbic system, and plaques focused most densely in the hippocampus and the cortex (Ebersole & Hess, 1994).

Clearly, the most significant risk factor for Alzheimer's is age (Golden, 1995). As we get older, our risk of contracting the disease increases. Other possible theories of its cause include trace metals, a genetic disposition, infectious agents, neurochemical imbalance, and a less effective immunity system (Olson, 1992). Some evidence suggests that a low education level may be linked to the development of Alzheimer disease. Another study suggests a genetic link between Alzheimer's and Down syndrome (Golden, 1995). These theories have not been conclusively proven, but even though it is unknown exactly what triggers the disease, it does not prevent us as caregivers from enhancing the quality of life for these individuals.

> **Case Study (Mangino & Middlemiss, 1997)**
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> Francis, age 87, had become increasingly forgetful over the past few years but had been able to handle it well. More recently, she failed to recognize her younger grandchildren although her memory of events of long ago remained clear. Francis grew increasingly suspicious of those around her and often acted in ways that were socially inappropriate, such as exhibiting emotional outbursts. Such behavior was a departure from her former demeanor. She no

longer slept through the night. Instead, her husband found her wandering around the house, seeming more confused at night than during the day. More recently, her hygiene and grooming had deteriorated noticeably. Her appetite diminished considerably, and she began losing weight.

Francis has been diagnosed with Alzheimer disease. In the above case study, she is becoming more forgetful and confused. She has an inability to concentrate for long periods and is exhibiting some personality deterioration. As the disease progresses, Francis' judgment becomes impaired and she requires almost total care meeting her needs. As a nurse caring for Francis for a long period, I would wonder about her memory loss and increased confusion. Secondly, I would want to investigate her personality deterioration, and attach meaning to her impaired judgment.

What is happening in vascular dementia?

As previously mentioned, vascular dementia is the second most common dementing condition, representing about 20% of all dementia. Its recurrent small insults to the brain over time create a dementia that is less global and more specific to the damaged areas (Mangino & Middlemiss, 1997). The literature agrees that vascular dementia may be initially seen with varied symptoms and runs an unpredictable course. It is marked by several distinguishing characteristics: remission and fluctuation, preservation of personality, insight, liability of emotion, and epileptiform attacks (Ebersole & Hess, 1994, Golden, 1995). The damage resulting from vascular dementia may be partially reversible, but it is more likely to have significant permanence. Vascular dementia presents with more sudden events of loss in contrast with the gradual global decline typical of Alzheimer disease (Mangino & Middlemiss, 1997).

In addition to this author, Snowden et al (1997) has determined the relationship of brain infarction to the clinical expression of Alzheimer disease. In his paper (The Nun Study), 102 participants were assessed by clinical and neuropathologic criteria. The findings suggest that cerebrovascular disease may play an important role in determining the presence and severity of the clinical symptoms of Alzheimer disease. This combination also might result in more severe symptoms of dementia.

Individuals at risk for developing a vascular dementia syndrome include patients who have a history of smoking, hypertension, heart disease, diabetes, and elevated cholesterol (Golden, 1995). Ebersole and Hess (1994) add that individuals suffering from transcient ischemic attacks (TIAs) lasting up to 24 hours, resulting from spasms of blood vessels in certain segments of the brain, which produce temporary disturbances in sensation, cognition, and motor activity are often a warning of impending stroke.

Case Study (Mangino & Middlemiss, 1997)

Albert had lived independently until the age of 93, with diagnoses of degenerative joint disease and a history of a small stroke in the preceding year that left him with right–sided weakness. After that he went to live with his daughter and son–in–law. He was alert, oriented, and outgoing. Two months after his move, he had an episode of confused thinking and numbness in his right hand. His blood pressure became elevated, and he required several drug trials to bring it under control over the next month. Four months later he had an episode of lethargy that came on suddenly, in the dining room. The episode lasted for several minutes, then seemed to clear. Two other similar episodes occurred during the next few months. At his annual physical he was found to be somewhat forgetful and scored poorly on the mental status exam. His daughter noted that this seemed to have come on rather suddenly in the past year. The physician listed the diagnosis of early Alzheimer disease. Three weeks later he was found unconscious in his bed and rushed to the hospital. A CT scan of the head revealed a new ischemic stroke as well as several small and apparently recent strokes throughout.

Albert is diagnosed with vascular dementia. Much of the clinical picture for Albert has a sudden onset. As Albert's nurse, I would wonder at the sudden episode of confused thinking and numbness in his right hand. Secondly, I would want to investigate the sudden episode of lethargy which lasted for several minutes and then seemed to clear. Although Albert's clinical picture is significantly different from Francis in the previous case study, I find that these typical cases are often confused and misdiagnosed.

Assessment of Dementia

Evaluating symptoms is the first step in distinguishing between Alzheimer disease and vascular dementia (Golden, 1995). Albert, with vascular dementia, tended to experience the onset of dementia more quickly than Francis with Alzheimer disease. Both of these individuals require a full assessment, including a complete history, a comprehensive physical exam (with emphasis on neurologic and mental status), laboratory tests, and selected diagnostic studies or procedures examining the brain and nervous system. Additional testing may include neuropsychologic testing and lumbar puncture. A complete history may reveal deficits of intellectual functioning. Information needed to gather a full history is best obtained from the patient and another source close to the patient, such as a spouse, family member or caregiver (Drachman et al, 1991, Mangino & Middlemiss, 1997, Golden, 1995).

The Folstein Mini–Mental State Exam is a practical method for grading the cognitive state of patients for the clinician. It is the most widely accepted tool and tests for orientation, registration,

attention, calculation, recall (memory), and language. The exam itself does not establish a diagnosis of Alzheimer disease or determine the cause of the dementia but enables the practitioner to recognize cognitive deficits and provides a baseline cognitive function level for reference at subsequent examinations (Golden, 1995, Mangino & Middlemiss, 1997).

When I explore the diagnosis of a patient in the hospital or nursing home, I will discover in their file, DAT (Dementia of the Alzheimer type), or MID (Multi–infarct dementia), or simply Dementia due to stroke. Further investigation of the patient's chart reveals that no selected diagnostic procedures to examine the brain and nervous system have ever been conducted.

During the assessment interview with the patient, I find it essential to remain alert to verbal as well as non–verbal cues. When gathering information pertaining to social and medical history, I find that the patient constantly sends out non–verbal messages through his/her body language, appearance, clothing, and mannerisms, which may very well be making a statement. Recently I interviewed an elderly client in his home; he was impeccably dressed, his suit, necktie and shoes suggested conservative taste. But his unkempt hair and carelessly shaved face implied entirely different values. These signals indicate that something may be wrong with the way he is processing information.

A Problem-Solving Approach

The person with dementia is trying to make sense of their world, but may be acting on incomplete information, due to the deterioration of brain function and where in the brain it is taking place. Tuokko et al (1993) offers a problem-solving approach to analyze several aspects of the individual's behavior, and strategies to cope with these problem behaviors:

1. identify the behavior
2. work out what the person with dementia is trying to do, and why
3. work out what impairment the person has which is resulting in the disturbed behavior
4. work out a response or strategy which takes into account what the person is trying to do, their impairments, and their abilities

I have applied this problem-solving approach in my practice with some of the following results:

1. The person with dementia is angry
    - behavior is anger and agitation when caregiver offers assistance with morning care.
    - person with dementia may be feeling loss of control of his/her life.
    - person with dementia may have inability to perform what was once a simple task, eg., brushing teeth.

- I find the way in which caregivers approach people with dementia is a critical part of avoiding angry outbursts. A gentle, supportive, simple approach will almost always be more successful than commands or rationalizing. Also, I find that keeping the daily routine as consistent as possible is very important for persons with dementia.

2. Person with dementia is having problems with eating
    - behavior is apparent loss of appetite.
    - person with dementia may be feeling depression, causing loss of appetite; also, he/she doesn't always remember to stop and eat.
    - person with dementia may find that they no longer understand how to eat; can no longer coordinate the use of silverware. Also, this individual may have a feeling of being rushed by caregiver.
    - I have found that this individual may require an assessment for depression, if appetite loss becomes a problem. Also, making sure that the individual is getting enough exercise stimulates the appetite. And trying to make mealtimes simple, relaxed and calm will encourage this person to eat.
3. The person with dementia refuses to have their bath
    - behavior is refusal to have bath at scheduled time.
    - person with dementia may be feeling overwhelmed at the bathing procedure. Also they may feel uncomfortable with a new caregiver, and feel embarrassed and vulnerable about being naked.
    - person with dementia may no longer understand the need for washing; they may have a fear of soap, washcloth, and running water.
    - many strategies work really well here; most importantly avoid confrontation at all costs, the bath time can always be postponed. Again, using a quiet, calm, matter–of–fact approach is important. Simplifying the task as much as possible; doing one step at a time, gently talking the person through each step. And always respecting the person's privacy and dignity. I find that even though the person has dementia, they still remain alert to their personal space.
4. The person with dementia wants to go home
    - behavior is wandering, usually in late afternoon.

- person with dementia has a desire to exercise. Wandering may be a coping mechanism to relieve stress and tension. He/she may have difficulty making sense of environment and is searching for friend or family member.
- person with dementia may be acting out a once regular routine, such as leaving for the workplace. They may be suffering from sensory overload or sensory deprivation. Also, their desire to leave may have been triggered by seeing outdoor clothing such as coat, hats, boots.
- I find that allowing the person to wander, if the environment is safe and secure, is extremely therapeutic. On the other hand, if the wanderer is going to be at risk, then safety precautions must be used (such as monitoring devices on the exit doors). A written diary or log may be helpful to understand what leads to wandering.

Summary / Closure

This paper has explored the concept of Vascular dementia and Alzheimer type dementia, examined the etiology of these dementias, including what is happening in the brain and the resulting behavior, illustrated some assessment criteria, and identified a problem-solving approach in dealing with some of the behaviors.

This concept paper on understanding dementia has been a milestone for me and my knowledge base. When I embarked on the subject and thinking about my own approach to learning, I intended to write about Alzheimer disease only. During the research process, I came to realize that this would be impossible. There are far too many similarities between the etiology, clinical picture of the person with dementia, and problem-solving approach, but there are also differences. Unfortunately, I don't see many of these differences reflected in the literature, even though I do see it in my practice. Consequently, there is a diagnostic dilemma for the clinician, often resulting in a misdiagnosis of the dementia.

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