

Dealing with Alzheimer's

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Today my grandson bought me a new wrist watch from his first salary. Unfortunately, can not remember where, I kept it. So I looked and looked and looked.. And now I have forgotten what I was looking for...

Alzheimer's disease is the most common type of dementia caused by gradual death of the neurons (nerve cells) in the brain. It was first described by Alois Alzheimer in 1907.

The frequency increased with age, being 0.3 percent in age range 60-69 years 3 percent among 70-79 years and 11 percent in those over 80 years. Alzheimer's is becoming more common in India as the life expectancy increases.

The death of the neurons seems to be mainly due to deposits of proteins called beta amyloid between the neurons and may also due to tangles in the neurons.

Nurses role in care of Person with Dementia

Since medical management is still under research nursing care is important for patient with Alzheimer's disease. They include the following points.

Since dementia affects both the long and short-term memory, the nurse (caregiver) would do well by helping the person with dementia to build a systematic collection of personal memorabilia and information data base.

The nurse can help the person to work out the content list and to start searching for the information, photos and other relevant items.

Examples:

- Start off with the birth place and date of birth.
- Draw a family tree as far as the person can recall.
- Include a photo of village, town or city where the person was born as well the name of the hospital or place where the delivery took place.
- Record of the first job and the amount of the first salary; nature of job; position or work title;

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frequency of job change.

- Wedding photographs (including those taken during the honeymoon) are powerful reminders of what was it like during his/her wedding.
- Holiday photographs.

Supporting the activity of daily living (ADL) skills: ADL skills refer to washing, bathing, feeding, toileting and mobility. These are essential basic skill to maintain personal hygiene and meet the daily needs.

The caregiver (nurse) need to assist them (such as squeezing the toothpaste out, telling them where the things are kept, preparing a bath for them and / or getting clean clothing to them.

Example: The nurse should encourage the person to brush the teeth and wash the face independently. Using electric razor instead of manual razor would encourage him to do the shaving by himself. When choosing what to wear, the caregiver must avoid taking too many clothes for the person to select.

There is total disorientation to time, place and person. The nurse should provide all the care including personal hygiene, feeding and toileting.

Following is a list of tips for enhancing the relationship with the elderly person with dementia during the care giving process.

Taking medications

A 7-day medications storage and dispensing box (for Monday to Sunday separately) is highly recommended. Each of the smaller boxes has compartments which indicate the time the medications should be taken for the day. The medication for a particular day (say Tuesday) are to be placed inside the box labelled for that day (Tuesday).

- ☐ The name of person with dementia is shown on the drug box.
- ☐ Clearly label the daily drug box (with day and time for medication).
- ☐ Prepare a list of a medications and their use.
- ☐ Check the patient for adverse drug effects and drug interactions.

- ❑ Advice the patient and his family that scientific evidence generally doesn't support claims that certain non-prescription products can improve mental functioning.
- ❑ Instruct the family to always check with the doctor before the patient takes non-prescription drugs, especially if he has heart or liver problem or is taking a drug for heart problems hypertension, diabetes or mental illness.

Reality orientation

The aim of reality orientation (RO) is to help the person with dementia maintain a sense of what is actually going on around him/her.

Add orienting materials to every conversation.

- (a) Using big clocks : Since the person with dementia also need to know the time, use a big clock with clear bold numbers as well as prominent hour and minute hands.
- (b) Using the calendar : The calendar often has spaces to note down special events such as birthbama report). Monitor the patients food and Fluid intake because help at risk for poor nutrition.
- (c) Labelling the rooms : The person with dementia generally has some degree of confusion with the environment; he / she might go to the wrong bed room or have difficulty in locating the bathroom (especially at night).
- (d) Read newspapers daily: Reading newspapers daily would help the person keep in touch with the recent local and international events.

Recommended routine : Prepare a white board in a visible and frequent accessed location, write down daily schedules and appointments clearly on it so that the person can refer to the written information. Encourage the patient to see a doctor every 3 to 6 months.

Safety: Protect the patient from injury, remove haz-

ardous items and obstacles to help maintain a safe environment.

Interpersonal relationship: Verbal communication should be clear and unhurried (Questions that require 'yes' or 'no' answers are best.

Nutrition: The sugary substances and soft drinks should be avoided as far as possible. Monitor the patient's food and fluid intake because he may be at risk for poor nutrition.

Case Studies

1. A case study from the Swedish Medical University Karolinska Institute (reported in Science Daily, 14 Dec 2010) sheds light on the pathological course of Alzheimer's disease. The brain of the first Alzheimer's patient to display amyloids demonstrable with a PET scanner was studied both during progression of the disease and after death.

One pathological characteristic of Alzheimer's disease is the accumulation in the brain of beta-amyloid proteins to form amyloid plaques. However, it is not known how early the plaques form in the brain, whether they are the primary cause of the disease or what pathogenic role is played by other changes in the brain.

The very first PET scan in the world of amyloid plaque in a living patient with the amyloid-binding compound 11C-PIB was performed in 2002 by Prof Agneta Nordberg at Karolinska Institutet on a 56-year-old Alzheimer's patient. The researchers then monitored the patient as the disease progressed with regular PET scans and memory tests. After the patient died, the team carried out pathological and neurochemical analyses of the brain tissue.

The combined result analyses, published in *Brain*, showed high concentrations of amyloid plaques an early stage of the disease when the patient suffered slight memory loss. The levels remained unchanged during the course of the disease, in contrast to the increasingly declining energy metabolism in the brain, which was also measured using PET as the patient's memory gradually deteriorated.

One formerly unknown connection that was discovered in the study is that the greater accumulation of plaque is accompanied by a reduction in the number of neuronal nicotinic receptors in the brain. These receptors are central to memory function, and this new finding demonstrates that the receptors are affected early in the disease development. Further, inflammatory changes were measured in brain regions with low levels of plaques

MEMORY JOGGER

How can you help keep a patient with Alzheimer's Disease?

Just think of the SAFE.

- S** Secure the area if the patient wanders.
- A** Arrange the room and furniture to accommodate the patients needs and disabilities.
- F** Frequently orient the patient to time, place, and situation.
- E** Easy access to self-care items is crucial.

which suggest that the neuro-inflammation related to Alzheimer's disease might have a different cause and evolve at different stage of the disease compared to that of amyloid accumulation.

Today, over 1,000 patients around the world have undergone PET scans for measuring amyloid concentrations in the brain. PIB-PET was recently recommended as the earliest clinical diagnostic biomarker for discovering Alzheimer's disease, following the diagnostic guidelines laid out by the American Alzheimer's Association. However, a follow-up of the results obtained from conducted PET studies should be performed in the brain tissue of deceased patients.

2. A 73-year-old woman was brought to neurological evaluation by her brother because of a 3-year history of memory impairment. She worked in a clerical position until her retirement in 1985. She had lived alone and maintained her own home and financial affairs since the death of her husband in 1980. The brother had begun to notice gradually worsening memory impairment and difficulty finding words, but the patient became angry at the suggestion that she may have a progressive impairment. Others had noted decline in housekeeping and financial affairs, but she had no complaints.

Elevated arterial blood pressure was documented on several occasions, but she never took medication. She had no children and had a hysterectomy. She was a well-groomed woman, alert and friendly. General and elemental neurological findings were normal.

Her speech was highly anomic and paraphasic, with a tendency to use vague referents such as "things" and "stuff". She was able to tell her name, but when asked about her current age, she said: "I don't know..., about 8 I think." She incorrectly stated her birth month, but then became aware of this. Given three choices, she was able to point out the correct month. She was unable to give the year of her birth, the current year, or the name of the current US President. On formal testing, she scored well below average in all cognitive domains. These tests included the Wechsler Memory scale, the Wechsler Adult Intelligence Scale, digit span and similarities subtests, the Boston Naming Test, the CERAD Word List Memory Test, the CERAD Visuo-spatial Construction, the Cross Circle Tests, the California Proverb Test, and the Graphomotor Alternation Test. She tended to persevere both verbal and motor

responses. On evaluation she met criteria for "probable" Alzheimer's disease which required supervision round the clock to insure her safety; she would probably benefit from social stimulation provided by a group living situation.

3. The patient was a 73-year-old, retired male dentist who has exhibited a progression of cognitive problems during the past 6 years. The patient was otherwise very healthy leading an active lifestyle.

Symptoms included Fatigue, Confusion, Memory Problems, Decreased judgment, Depressive Signs, Difficulty in concentrating, Problems doing, Familiar tasks, Disorientation to time & place.

Brain SPECT findings revealed bipartite and bi-temporal hypoperfusion as well as decreased posterior cingulate perfusion consistent with a neuro-degenerative process such as Alzheimer's disease.

Degenerative changes throughout the frontal lobes, widening of the third ventricle, and expansion of the lateral ventricles were probably due to diffuse degenerative cerebral changes.

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