DEMENTIA UPDATE 2011

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Dementia represents a late stage of disease along a continuum of cognitive impairment. With a fast aging population in Singapore, the number of local patients with established dementia is expected to rise to 53 000 by 2020. Dementia is largely related to neurodegenerative diseases such as Alzheimer's Disease (AD) and vascular dementia (VD). Increasingly AD and VD are noted to occur concurrently. Attempting to identify the dementia aetiology is to seek out potentially reversible causes of dementia and to pick the appropriate treatment for irreversible dementia. Reducing the vascular risk factors such as optimizing diabetic and blood pressure control tend to retard the amyloid cascade and stabilize the cognitive function of patients with vascular cognitive impairment. It is also clinically important to screen for other reversible causes such as vitamin B12 or Folate deficiency, which can be rectified.

Evidences show that the pathological changes in the brain begin many years prior to the clinical display of dementia. The challenge for physicians is to identify these early changes of disease, which have been described as "mild cognitive impairment (MCI) and cognitively impaired not demented (CIND). Studies showed that patients with MCI deteriorated to dementia by about 12% annually and 80% at six years of follow up. Distinction between these two conditions can be difficult as they represent a continuum of the disease and is a subject of intense research.

Evaluation begins with physician taking history of the pattern of cognitive decline, progression, significant alcohol intake and medication use. Physical examination should target at detecting neurological deficits, extra-pyramidal signs, movement disorders and gait abnormalities. It is important to distinguish dementia from delirium, which can be achieved using the Confusion Assessment Method (CAM) with its high degree of sensitivity and specificity.

Functional assessment is carried out via self-reporting or through feedback from family members or caregivers. The subjective approach aims to detect memory impairment and deficits in one other cognitive domain (aphasia, apraxia, agnosia and executive dysfunctioning. The objective approach uses performance-based instruments such as mental status tests. Locally validated tools include Elderly Cognitive Assessment Questionnaire (ECAQ), Abbreviated Mental Test (AMT) and the Chinese Mini Mental Status Examination (CMMSE). The cut-off scores serve as a screening instrument for dementia but can be confounded by language barriers, advanced age and low education. Functional difficulties can be assessed at three levels: community functioning, home functioning and self-care.

Combining both subjective and objective methods appears to be the way ahead. Even if this fails and diagnosis is inconclusive, neuropsychological tests by clinical psychologists is another option.

Neuroimaging (such as CT or MRI brain, PET scans) are helpful in the differential diagnoses of dementia and to exclude structural lesions such as cerebral infarcts and subdural hematoma. Whether it is required for all patients with dementia remains a subject of debate.

Management of dementia is multi-faceted. Behavioural and psychological symptoms of dementia (BPSD) are common. Non-pharmacological interventions are usually first line management for mild to moderate symptoms.

Pharmacological treatment aims to reverse or stabilize the underlying disease by addressing the reversible causes or risk factors, improve cognitive symptomatology and treat BPSD. Acetyl cholinesterase inhibitors (ChEI) and N-methyl D-aspartate (NMDA) are primarily symptomatic in their mode of action. Cochrane review has shown that Gingko biloba was not effective in preventing dementia. Anti-psychotic, anti-depressants, anti-convulsants and benzodia-zepines are other groups of drugs to manage BPSD. Cost and side effects are important considerations with the use of medications, including long term use of ChEI and NMDA; the choices depend on underlying aetiology and stages of dementia severity. The CMMSE, AMT and ECAQ can be used to monitor the benefits of these symptomatic treatments.

Caregivers assume critical roles in the management of patients with dementia. Support for caregivers not only reduces caregiver depression, lessen their burden of care, improve their health and quality of life (QOL), it also impacts on patients' care, improve their QOL, medication compliance and decreases rates of institutionalization. Most local caregivers of dementia patients are women, middle-aged and mostly children or spouses of the patients. Many families also engage foreign domestic helpers, who facilitate the physical caregiving whilst family members make decisions on medical care and provide financial support.

Age, gender, healthcare status, kin relationship and ethnic background are factors that influence caregiver performance. As dementia progresses, caregivers experience increasing suffering compared to the patients; they encounter different

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genres of problems at different stages of the disease. Stressors can impact on the caregivers' emotional well-being, physical health, employment status, income and financial security

Family Physicians (FP) too, play pivotal roles in the comprehensive management of dementia. Caregiver's positive experience with their FP is the first key step in the holistic care of these patients. In the early stage of dementia, FP can explain the diagnosis, educate the families/caregivers on the course of the disease over time, suggest adaptation measures, advise financial, legal planning and advance medical directives (in relation to Mental Capacity Act), and set up of a support system for the caregiver.

During the middle stage characterized by increasing BPSD, FP can screen for caregiver stress, mode change, frustration and burnout and identify resources to help them cope with the increased burden of care. In the late stage, FP can support caregivers to manage end of life issues, facilitates referral, coordinate care with other community healthcare providers and handle bereavement.

FP should be aware of the inclusion of dementia under the Chronic Disease Management Programme, which offers the caregivers another option to financially support drug therapy and long term care of the patients with dementia. Working towards achieving positive experience with patients and their caregivers should be the common goal of all FP in the management of dementia in the community.