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Dementia: Risk Factor Assessment and Management

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Did you know that the common risk factors associated with coronary artery disease and stroke (hypertension, atrial fibrillation, diabetes, hyperlipidemia, smoking, etc.) are also felt to contribute to dementia, not only vascular dementia (VaD) but also Alzheimer (AD) or mixed Alzheimer and vascular dementia (mixed AD/VaD)?

Did you know that even though there is no Level 1 randomized control trial (RCT) evidence, it is generally now recommended to treat vascular risk factors not only for heart and stroke prevention but also potentially for dementia prevention?

Did you know that 1 RCT showed that the treatment of systolic hypertension was associated with 55% less dementia after 3.9 years follow-up?

In terms of dementia diagnosis, it is now felt that AD (40-50%), VaD (5-10%), and mixed AD/VaD (20-25%) represent approximately 80% of all dementia. It is also increasingly recognized that cerebrovascular disease plays a role not only in VaD but also in mixed AD/VaD and pure AD. The famous NUN study by Snowdon (JAMA 1997;277:813-17) showed that individuals who had vascular lesions as well as Alzheimer plaques and tangles at autopsy versus those with just plaques and tangles had 20 times the likelihood of clinical features of dementia while there were still alive. This study also showed that fewer neuropathological lesions of AD were needed to result in a clinical presentation of dementia in those with vascular lesions than those without vascular lesions.

This synergism between AD lesions and vascular lesions has resulted in an approach to AD, VaD, and mixed AD/VaD in which vascular risk factors are being treated more aggressively. Based on three recent RCTs, acetyl cholinesterase inhibitor therapy (AChEI) can be recommended for VaD and mixed AD/VaD (2 in pure VaD

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using Aricept: Black - Stroke; October 2003:2323-32 and Wilkinson – Neurology 2003; 61:479-86 and 1 with Reminyl in mixed AD/VaD: Erkinjuntti – Lancet 2002;57:613-620).

The top 5 stroke prevention interventions can likely be extrapolated to dementia prevention:

- Control systolic hypertension in the elderly to less than 140/90
- Control hypertension in diabetics to less than 130/80
- Anticoagulation with Coumadin to an INR of 2.0-3.0 for atrial fibrillation
- Optimize lipid profile for secondary prevention and high risk patients for primary prevention and
- Counseling and management for smoking cessation.

There is consistent strong evidence from multiple large longitudinal cohort studies that mid-later life hypertension is a risk factor for cognitive decline. The Syst-EUR Study showed a statistically significant and 55% risk reduction compared to placebo in the treatment group with a calcium channel blocker at 3.9 years follow-up for 2,418 patients over age 60 with systolic hypertension (Forette – Lancet 1998; 352:1347-51).

Diabetics have up to 4 times the relative risk for CVS disease and up to 2 times the relative risk for stroke. The association with VaD is much stronger than with AD. The UKPDS Study showed 44% relative risk reduction in stroke with tight blood pressure control but no stroke reduction with improved glycemic control. The current recommended guideline goal for hypertension in diabetics is ≤ 130/80.

Atrial fibrillation (AF) is a very common arrhythmia in the elderly and certainly over age 80 is the most important modifiable risk factor for stroke. Paroxysmal AF carries the same risk. Of the modifiable risk factors for stroke, AF is the highest relative risk reduction (68% with the use of Warfarin). However, in clinical practice studies only about 25-30% of the elderly with AF receive appropriate anticoagulation with Warfarin although the relative risk reduction is much diminished with ASA (25%). Often fear of falls is given as a reason not to anticoagulate but modeling analysis study (Man-Son-Hing Arch Int. Med. 1999;159:677-685) showed that the risk of not anticoagulating would be equal to the risk of 295 falls per year.

The Statin literature is growing daily. There are clear benefits for the elderly in secondary prevention and benefits in primary prevention for those who are high risk (a 10 year risk for CHD of more than 20%). Patients in this risk category would include non-coronary atherosclerosis (PVD, AAA, type II diabetics, and for example using the Framingham risk tables a 70 year-old male with a blood pressure between 140 to 160. There is however, no Level 1 RCT evidence for the use of statins to prevent dementia. A few trials have been done but the methodology has been relatively poor with respect to the assessment and diagnosis of dementia. There are several large cohort studies in which groups of patients on statins had much lower risk of developing dementia versus those not on statins but this type of study clearly does not prove treatment cause and effect. But similar to other modifiable vascular risk factors, the treatment of hyperlipidemia in the elderly with Statins for secondary prevention has been clearly shown to significantly reduce strokes.

The bottom line now is to recommend AChEI treatment whether the diagnosis is AD, VaD or mixed VaD/AD and to treat vascular risk factors not only for benefits in heart and stroke disease but possibly also for dementia. An excellent website for further information is www.cvtoolbox.com.

Understanding Behavior Problems Associated With Dementia

Dr. Cathy Shea and Dr. Marie-France Rivard, Geriatric Psychiatry Program, Royal Ottawa Hospital

Since 1998, the PIECES framework has been taught to registered nursing staff in Long-Term Care facilities in Ontario as part of Ontario Strategy for Alzheimer Disease and Related Dementias. This evaluation framework, first described by Dr. Ken LeClair, encourages clinicians to explore all of the factors that might be involved in the disturbed behavior so that specific non-pharmacological solutions can be attempted to address these factors and reduce the frequency or severity of the problem. This framework is also useful when assessing community dwelling persons with dementia. It is hoped that the old "solution" of simply sedating residents with medication or using restraining devices will be avoided. The P.I.E.C.E.S. acronym is explained below.

P = Physical problems (delirium, disease, drugs, discomfort)
I = Intellectual impairment (dementia, specific deficits such as amnesia, apraxia, agnosia, etc)
E = Emotional problems (depression, adjustment, delusions or hallucinations)
C = Capabilities and strengths (resources vs. demands)
E = Environment (ambiance, noise, relocation)
S = Social (life story, relationships, social network)

The following case example will illustrate how P.I.E.C.E.S. can be used to understand and address difficult behaviors such as uncooperative and aggressive behavior.

Mrs. Stevens is a 95 year old woman with a diagnosis of dementia, living in a LTC facility for one year. She has cognitive impairment and an expressive aphasia. Over the past 4 weeks she has become verbally and physically aggressive during personal care and will scream "leave me alone", "get away", and hit staff members when they got her up for the day, to dress and go to breakfast. Her care now requires 2 to 3 staff. She refuses to walk. Once in a wheelchair she settles and will wash and feed herself. She is aggressive again when taken to bathroom. Staff interpret her aggressive behavior as willful, and worry that she is getting a lot of attention from it. A trial of lorazepam (Ativan), then risperidone (Risperdal), before providing care, has not helped. In fact, she seems more confused than usual.

In reviewing Mrs. Steven's aggressive behavior using the P.I.E.C.E.S. framework, some staff members wonder if she might be in pain (**P**). An X-Ray of her hip reveals a fractured hipbone. Physical discomfort (in this case, severe pain upon mobilization) is at the source of the problem, combined with the patient's difficulty in explaining what is bothering her (**I**: specifically, aphasia). **E**motionally, she is distraught when repeatedly subjected to the painful experience of being moved and frightened by having increasing number of staff approaching her (**E**).The response of the staff changes when they understand that the negative behavior (refusal to walk) is related to demands that exceeded her **C**apabilities and the aggressive behavior is not willfully directed at them for the purpose of getting attention. In turn, staff members convey a more compassionate non-verbal language when they understand this woman's suffering and provide a less threatening **E**nvironment. Surgery and pain medication eventually helped with Mrs. Steven's pain and the behavior problems disappeared. Anti-psychotics and benzodiazepines did not do much to calm her and likely worsened her confusion.

For more information on behavioral and psychological symptoms of dementia, physicians can access the newly launched dementia education website at the following address: www.dementiaeducation.ca. This website was developed through the Physician Education Initiative of Ontario's Strategy for Alzheimer Disease and Related Dementias and we encourage physicians to visit the site where more information on Behavioral and Psychological Symptoms of Dementia can be found.

Top Three Reasons to Refer Your Patients to First Link

1. Caregiver support
2. Dementia education
3. Info about community services

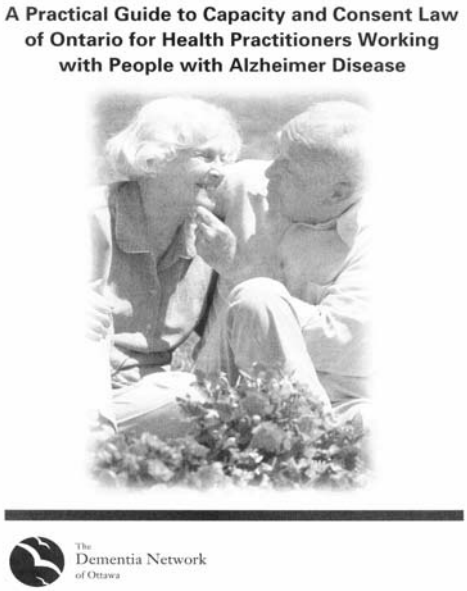
Local physicians have referred more than 200 patients to First Link, a support and education initiative for individuals and families with dementia. First Link is an Alzheimer Society of Ottawa program implemented in collaboration with the Dementia Network of Ottawa. When you refer a patient to First Link, they receive: a personal phone call from the Alzheimer Society, an information package about Alzheimer Disease and dementia, guidance and information about community resources and care issues. An Ottawa family physician reports: "Patients who have made the First Link connection are generally more knowledgeable about the disease and the help available, and more secure in having someone specific to call on when they need to".

For more information:
www.alzheimerottawa.org/first_link or phone 523-4004 for your First Link referral kit

Have a look at: www.dementiaeducation.ca !!!

This site has been developed as part of the Physician Education Initiative of Ontario's Strategy for Alzheimer Disease and Related Dementias. This multi-faceted education program was developed to inform and promote practice change in regards to Alzheimer Disease and related dementias. Registered users of the site will have access to clinical tools, educational materials and teaching resources. The website hosts case-based interactive learning modules, clinical practice guidelines, various educational resources and information on community resources.

Take a look…be informed!



A Practical Guide to Capacity and Consent Law of Ontario for Health Practitioners Working with People with Alzheimer Disease

This new guide provides a general overview of the law and suggested practice for primary care physicians and other health practitioners in dealing with issues of incapacity to consent to treatment, admission to a long-term care facility or management of property. Developed by members of the Dementia Network of Ottawa, the Geriatric Psychiatry Program of the Royal Ottawa Hospital and the Geriatric Psychiatry Community Services of Ottawa, this valuable resource is available on the Alzheimer Society of Ottawa website under the Dementia Network of Ottawa icon: www.alzheimerottawa.org

THANK YOU

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