

Not All Dementia is Alzheimer Disease

Nowadays people are more inclined to seek medical attention for memory loss or other changes in mental function. As a result, clinics have been seeing an increasing number of patients with all types of dementia, not just those caused by Alzheimer's. Frontotemporal Dementia or Pick's Disease is another common cause of dementia. When a patient younger than 65 years loses cognitive ability, doctors should consider the diagnosis of Fronto-temporal Dementia. Alzheimer Disease can start in patients younger than 65, but Fronto-temporal Dementia occurs more commonly in this age group.

Frontotemporal Dementia is remarkable not only because patients can start having symptoms so early in life (their 40's), but also because of startling changes in personality and behaviour. These neuropsychiatric symptoms usually prompt a referral to psychiatry clinics. Mood disorders have been reported in about half of these patients, and depressive episodes may precede progressive decline of cognitive function by many years.

Abnormal oral behaviours range from hoarding sweets, to meal rituals, to oral exploration of non-food items. Most patients tend to gain weight. Patients with Fronto-temporal Dementia also suffer a decline in interpersonal skills that may be reflected in irritability, agitation, inflexibility, and impulsive verbal or physical approaches. Psychotropic medications play a large role in the management of Fronto-temporal Dementia. Currently available cholinesterase inhibitors were developed specifically to treat Alzheimer Disease, but there is no specific medication

yet to address Frontotemporal Dementia. The two types of dementia feature different chemical imbalances in the brain.

Neurotransmitters are chemicals essential for brain function. Most drugs that affect the brain, including those used in individuals with dementia, work on one or more of the brain's many neurotransmitter systems. In Frontotemporal Dementia, we prescribe medications that provide the neurotransmitters serotonin and dopamine to the brain. My current study at the Rotman Research Institute, *PET Measurements of Serotonin in the Neuropsychiatry of Dementia*, gives subjects the opportunity to participate in a special kind of brain imaging. Positron Emission Tomography, or PET scanning, uses specific markers to look for different brain activities. The PET scan labels places where serotonin would have its affect on the brain. The numbers of these serotonin docking sites may differ among people who have mood and behavioural changes as part of Fronto-temporal Dementia. Caregivers answer questions about the patient's mood and behaviour while the patient is having the PET scan so that we can learn the timing of serotonin's impact on these areas. Characterizing the internal causes of psychiatric symptoms in dementia will guide design and prescription of medications. This study will reduce the guesswork of treating these individuals by providing important new information about the brain's chemistry. This cutting edge brain imaging technology grants us the tantalizing new ability to measure serotonin levels in "real-time," that is, while people

are experiencing mood or behaviour disturbances.

This PET study is just one offered from the newly formed Fronto-temporal Dementia Workgroup. This collaboration between investigators within the University Health Network brings together the work of Drs. Sandra Black, Nathan Herrmann, Krista Lanctot, Morris Freedman, Brian Levine, and myself. Not only do the investigators consult with each other regarding study design and hold educational activities for clinical health-care professionals, but they also facilitate recruitment to studies on Fronto-temporal Dementia and caregiver burden within the Greater Toronto Area.

Frontotemporal Dementia challenges families and professional care providers with its early onset age and tendency to trigger difficult mood and behavioural disturbances. Fortunately, many of the behavioural disturbances that may result from dementia, whether due to Fronto-temporal Dementia or Alzheimer Disease, respond to currently available medications. It is important to report any new behavioural symptoms to your treating physician in order to address these problems early and adequately.

For more information on this study please contact:
Peggy St. Jacques,
Rotman Institute,
416-785-2500 ext. 3082
pstjacques@rotman-baycrest.on.ca

article by:
Tiffany Chow, MD
*Clinical Scientist,
The Rotman Institute.
Assistant Professor of Neurology,
University of Toronto.*