Mild Cognitive Impairment (MCI)

Dr. W. Dalziel, MD, FRCPC
Ottawa Hospital, Geriatric Day Hospital

The person is "not as sharp as 1 year ago". A CHANGE in cognition from before.

↓

MCI is NOT normal aging, Cognitive testing is BELOW normal

↓

But there is NO impact on function
(An impact in function would make the diagnosis of Dementia)

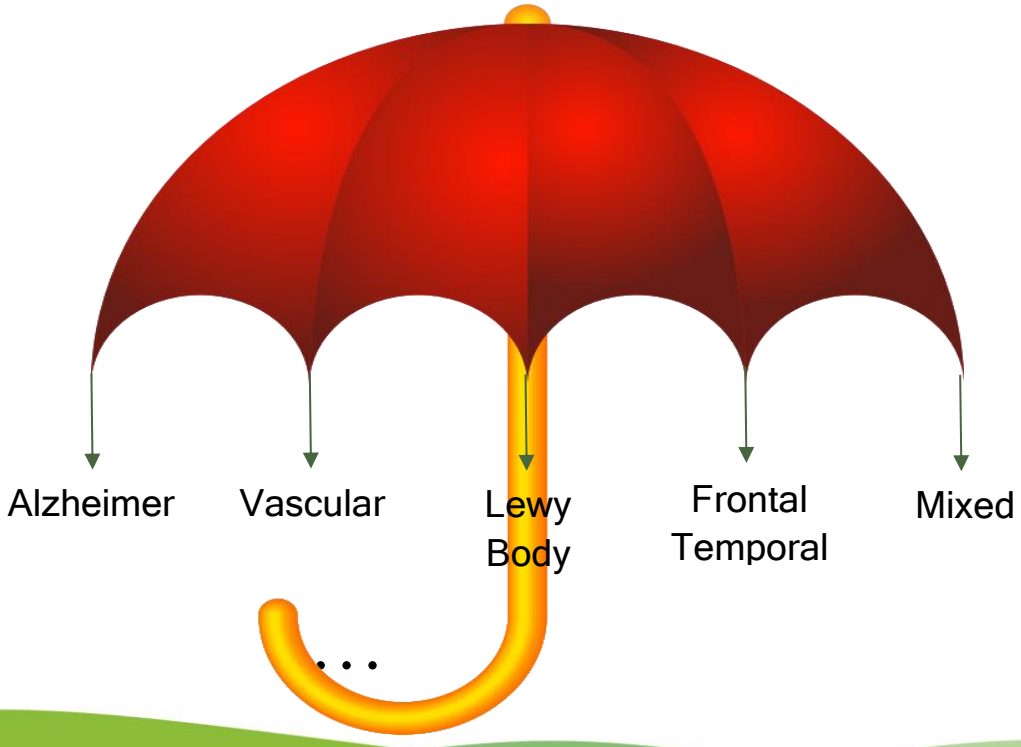
MCI and Dementia are UMBRELLA Terms

- MCI is cognitive change but NO functional change (see page 2).
- Dementia is cognitive change CAUSING functional change

Compared to 6-12 months ago

Both MCI and dementia have many underlying causes/etiologies.

MCI or Dementia



5-10% Reversible

- Drug side effects
- Alcohol
- Depression
- Calcium/B12/Thyroid
- Poorly controlled medical diseases
- Sleep apnea

MCI

So typically, in MCI, family and friends and sometimes the person themselves notice changes in memory, language, thinking, organizational abilities or judgement but there is no impairment in function: the Activities of Daily Living (ADL): cooking, shopping, finances, driving/transportation, housekeeping, computer use, hobbies, use of tools/telephone etc.

MCI is a HIGH RISK condition for PROGRESSION to Dementia

The risk of progression is approximately 10% per year, sometimes higher. However, not everyone gets WORSE, over 10 year follow up about 1 in 3 improve or stay the same, 2 in 3 progress to a mild dementia.

BUT everything should be done to potentially **lower** the risk of progression to a dementia.

It is very important that Vascular Risk Factors are optimized (hypertension, diabetes, hyperlipidemia). The control of high blood pressure is the most important by far. The treatment goal is <140/90.

How is the Diagnosis of MCI or Dementia Made?

- An appropriate history looking at ABC changes (compared to 1 year ago)
    1. ADL: Activities of Daily Living (if it is dementia not MCI)
    2. Behaviour change: apathy, irritability, agitation, depression
    3. Cognitive change: short term memory, repetitiveness, wordfinding
- Physical exam focus on Neurologic and Cardiac
- Cognitive testing – most used in Canada is the MoCA – Montreal Cognitive Assessment Test scored out of 30 (typically <26 is abnormal)
- MoCA scores can be decreased in both MCI and dementia. The test score is not diagnostic. It can be affected by education, language and culture.

• • •

Important Conditions to Rule Out

- Depression
- Medication side effects
- Laboratory tests: thyroid/calcium/Vitamin B12/blood sugar/kidney function/hemoglobin
- Sleep apnea
- Poorly controlled chronic diseases: Heart, lungs, kidneys etc.

Medications & MCI

- It is important to review medications – those medications most likely to affect cognition include:
    - Benzodiazepines (Ativan, Imovane etc.) in which 1 year use increases the risk of dementia by 70%
    - Anticholinergic drugs (antihistamines, antispasmodics, antiparkinsonian)
    - Narcotics/Sedatives/antipsychotic drugs

Further Testing:

- Neuroimaging (CT/MRI scan) is generally not indicated unless there are other indications.
- Further Occupational Therapy/neuropsychological testing may be indicated in some cases. Driving safety may need to be tested in some circumstances.

• • •

What is the Approach to Management and Follow up of MCI

- Yearly follow up including cognitive testing so any progression to dementia is picked up early.
- The drugs used for Dementia (Aricept, Reminyl, Exelon, Memantine) have NOT been shown to be beneficial in MCI but these drugs are USEFUL if there is progression to early dementia.
- Persons with MCI may forget their medications so supervision/use of dosettes/blister packs might help.
- Persons with MCI may not have optimal control of their medical conditions; it is very important that other diseases are well controlled. It is VERY useful to have someone attend all medical appointments to optimize communication and compliance with recommendations.

Prevention of Progression

- Treat vascular risk factors.
- "Use it or lose it" the "geriatric war cry" is recommended – activity: mentally, socially and physically is recommended.
- The best evidence for "activity" is with exercise: positive brain aging. One study showed 30% benefit with walking ½ hour TWICE A WEEK – more is better, strength exercises may also help.
- There is no evidence linking MCI with impaired driving safety.
- No vitamins or "supplements" have been shown to help in proper scientific studies.

W.B. Dalziel
Professor, Geriatric Medicine
University of Ottawa
Director Geriatric Day Hospital,
The Ottawa Hospital

• • •