

Treating Dementia with Cholinesterase Inhibitors

Patient information - Older Persons Mental Health

www.cdhb.health.nz/patientinfo

Dementia is a progressive disease of the brain in which brain cells die and are not replaced. It results in impaired memory, thinking and behaviour. In recent years a number of medications for dementia have become available in New Zealand, including cholinesterase inhibitors, which are discussed below. For more information, please contact your GP or specialist. Other useful sources of information are Alzheimer's Canterbury (314 Worcester St, Christchurch, phone (03) 379 2590) and the website www.alzheimers.org.nz click on "your Alzheimer's organisation" to take you to Canterbury.

How do cholinesterase inhibitors work?

Cholinesterase inhibitors are designed to enhance memory and other brain functions by influencing chemical activity in the brain. Acetylcholine is a chemical messenger in the brain that is thought to be important for the function of brain cells involved in memory, thought and judgement. Acetylcholine is released by one brain cell to transmit a message to another. Once a message is received, various enzymes, including some called cholinesterases, break down the chemical messenger for reuse.

In the brain affected by dementia, the cells that produce acetylcholine are damaged or destroyed, resulting in lower levels of the chemical messenger. A cholinesterase inhibitor is designed to reduce the activity of the cholinesterases, thereby slowing down the breakdown of acetylcholine. By maintaining levels of acetylcholine, the drug may help compensate for the loss of functioning brain cells.

Who may benefit from cholinesterase inhibitors?

These drugs are often recommended for people with mild to moderate Alzheimer's Disease. They have also been found to be useful in some people with vascular dementia, Lewy-Body Dementia, or more severe Alzheimer's Disease. In other forms of dementia such as fronto-temporal dementia, their benefit is unproven.

What symptoms of dementia are likely to improve?

Cholinesterase inhibitors are not a cure for Alzheimer's Disease, but approximately half the patients taking a cholinesterase inhibitor respond, with some seeing a temporary improvement in their symptoms and others having a slowed rate of symptom progression. Motivation, hallucinations and delusions are the symptoms most likely to improve. Improvements may also be seen in practical living skills, agitation, ability to communicate and memory.

These medications do not affect the length of life, but may improve the quality of life of patients who respond to the medication, for the time it is taken. The medication may need to be taken for a few months before its full effect can be seen. If after this time no benefit is seen there is unlikely to be any benefit later on, and the drug should be stopped.

Any beneficial effects of the medication may continue for a few months to a few years. It can be difficult to decide when to stop the medication. If a person's symptoms start to progress rapidly while they are taking the medication, they should discuss with their doctor whether to continue the medication, to try stopping the medication, or to change to another medication.

Which cholinesterase inhibitors are available in New Zealand?

There are three drugs available in NZ : donepezil (the generic is donepezil-Rex, and trade name is Aricept), galantamine (Reminyl) and rivastigmine (Exelon). All three medications are available as tablets, and rivastigmine is also available as patches which are applied to the skin each day.

What side effects do cholinesterase inhibitors have?

The medications usually have only mild, short-term side effects, the commonest ones being nausea, vomiting, loss of appetite, diarrhoea, stomach cramps, headaches, insomnia and dizziness or fainting on standing up. Slowing of the heart rate is sometimes a problem. Sometimes patients decide to stop taking the medication because of these side effects.

How much do cholinesterase inhibitors cost?

Donepezil-Rex is the only cholinesterase inhibitor that is funded by the government drug purchasing organisation PHARMAC and is therefore it is usually the one that is prescribed initially. The other medications may cost the patient from approx. \$100 to \$240 per month. Prices may vary between pharmacies. However, patients may be eligible to receive a Disability Allowance to cover part or all of the cost. The Disability Allowance is income-tested, and requires an application to WINZ with a supporting letter from your doctor.

How do I obtain a cholinesterase inhibitor?

General Practitioners can prescribe cholinesterase inhibitors.