

relieve symptoms and to maintain independence for as long as possible. The following are two of the more common degenerative disorders affecting the nervous system.

Dementia

Dementia is a progressive, irreversible decline in mental function. Alzheimer's disease is the most frequent cause of dementia, but there are dozens of other less commonly known causes. Currently, few drugs are available to treat dementia, and the ones that do cause only a minor reduction in symptoms of confusion and decreased memory (Drug Spotlight 13.1). The goal of drug therapy is to prevent or slow further mental deterioration. Therefore, the best outcome is early diagnosis, so treatment can begin. Although it is unclear how they work, cholinesterase inhibitors are the drugs of choice in treating mild to moderate Alzheimer's disease. Research shows that this class of drugs prevents the breakdown of cholinesterase in the brain that is responsible for memory and thinking. Aricept (donepezil HCL) is an example of a cholinesterase inhibitor that shows some promise in slowing the progression of this disease.



CRITICAL THINKING

If a patient is diagnosed with dementia, what precautions may need to be taken in the home?

Parkinson's Disease

Parkinson's disease is a degenerative disorder of the CNS. When neurons that produce the neurotransmitter dopamine die, muscle movements become disorganized. The lack of dopamine and the increase in acetylcholine cause tremors, slow movement, rigid muscles, and balance problems. Antiparkinsonian drugs focus on keeping dopamine and acetylcholine at the nerve synapse and thereby promote the transmission of nerve signals. These drugs are classified as dopaminergic (replacing or increasing dopamine), such as selegiline (Eldepryl), bromocriptine (Parlodel), ropinirole (Requip), and carbidopa/levodopa (Sinemet), or cholinergic agents (those that inhibit the action of acetylcholine), such as biperiden (Akineton).

Because of the blood-brain barrier, it is difficult to ensure that a sufficient amount of dopamine reaches the brain to control the symptoms of this disease effectively. As a result, patients with Parkinson's

Drug Spotlight 13-1 *Namzaric (donepezil hydrochloride and memantine hydrochloride)*

Classification	Anti-Alzheimer's agents
Availability	Tablets
Indications	Treatment of moderate to severe dementia associated with Alzheimer's.
Dosage/Implementation	10 mg of donepezil hydrochloride once a day. May be taken with or without food, intact or opened, and sprinkled on a small amount of food.
Action	Improves the function of nerve cells in the brain by stopping the breakdown of acetylcholine.
Adverse Reactions/ Side Effects	Most common is diarrhea, headache, and nausea. May include vomiting, anorexia, and ecchymoses.
Contraindications/ Precautions	Hypersensitivity to memantine hydrochloride, donepezil hydrochloride, or piperidien derivatives. If patient is pregnant or plans to become pregnant or is breastfeeding, notify her physician.