

- With myasthenia gravis, recommend that one or more family members be trained in cardiopulmonary resuscitation.

Evaluation

- Observe and interview about the adequacy of urinary elimination.
- Observe abilities and limitations in self-care.
- Question the client and at least one family member of clients with myasthenia gravis about correct drug usage, symptoms of underdosage and overdosage, and emergency care procedures.
- Question caregivers of clients with dementia about the client's level of functioning and response to medication.

PRINCIPLES OF THERAPY

Use in Myasthenia Gravis

Guidelines for the use of anticholinesterase drugs in myasthenia gravis include the following:

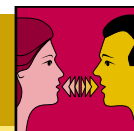
1. Drug dosage should be increased gradually until maximal benefit is obtained. Larger doses are often required

with increased physical activity, emotional stress, and infections, and sometimes premenstrually.

2. Some clients with myasthenia gravis cannot tolerate optimal doses of anticholinesterase drugs unless atropine is given to decrease the severity of adverse reactions due to muscarinic activation. However, atropine should be given only if necessary because it may mask the sudden increase of side effects. This increase is the first sign of overdose.
3. Drug dosage in excess of the amount needed to maintain muscle strength and function can produce a cholinergic crisis. A cholinergic crisis is characterized by excessive stimulation of the parasympathetic nervous system. If early symptoms are not treated, hypotension and respiratory failure may occur. At high doses, anticholinesterase drugs weaken rather than strengthen skeletal muscle contraction because excessive amounts of acetylcholine accumulate at motor endplates and reduce nerve impulse transmission to muscle tissue.
 - a. *Treatment for cholinergic crisis* includes withdrawal of anticholinesterase drugs, administration of atropine, and measures to maintain respiration. Endotracheal intubation and mechanical ventilation

CLIENT TEACHING GUIDELINES

Cholinergic Drugs



General Considerations

- ✔ Cholinergic drugs used for urinary retention usually act within 60 minutes after administration. Be sure bathroom facilities are available.
- ✔ Wear a medical alert identification device if taking long-term cholinergic drug therapy for myasthenia gravis, hypotonic bladder, or Alzheimer's disease.
- ✔ Atropine 0.6 mg IV may be administered for overdose of cholinergic drugs.
- ✔ Record symptoms of myasthenia gravis and effects of drug therapy, especially when drug therapy is initiated and medication doses are being titrated. The amount of medication required to control symptoms of myasthenia gravis varies greatly and the physician needs this information to adjust the dosage correctly.
- ✔ Do not overexert yourself if you have myasthenia gravis. Rest between activities. Although the dose of medication may be increased during periods of increased activity, it is desirable to space activities to obtain optimal benefit from the drug, at the lowest possible dose, with the fewest adverse effects.
- ✔ Report increased muscle weakness, difficulty breathing, or recurrence of myasthenic symptoms to the physician. These are signs of drug underdosage (myasthenic crisis) and indicate a need to increase or change drug therapy.
- ✔ Report adverse reactions, including abdominal cramps, diarrhea, excessive oral secretions, difficulty in breathing, and muscle weakness. These are signs of drug overdosage (cholinergic crisis) and require immediate dis-

continuation of drugs and treatment by the physician. Respiratory failure can result if this condition is not recognized and treated properly.

- ✔ Clients taking tacrine need weekly monitoring of liver aminotransferase levels for 18 weeks when initiating therapy and weekly for 6 weeks after any increase in dose. Caregivers should report any signs or symptoms of adverse drug reactions such as nausea, vomiting, diarrhea, rash, jaundice, or change in the color of stools. The drug should not be suddenly discontinued.
- ✔ If dizziness or syncope occurs when taking tacrine donepezil, or other anticholinesterase drugs, ambulation should be supervised to avoid injury.
- ✔ Caregivers should record observed effects of anticholinesterase medications given to treat Alzheimer's disease. These medications are often titrated upward to improve cognitive function and delay symptom progression, and this information will be helpful to the prescriber.

Self- or Caregiver Administration

- ✔ Take drugs as directed on a regular schedule to maintain consistent blood levels and control of symptoms.
- ✔ Do not chew or crush sustained-release medications.
- ✔ Take oral cholinergics on an empty stomach to lessen nausea and vomiting. Also, food decreases absorption of tacrine by up to 40%.
- ✔ Ensure adequate fluid intake if vomiting or diarrhea occurs as a side effect of cholinergic medications.
- ✔ St. John's wort should be avoided because concurrent use may reduce blood levels of donepezil.