Planning/Goals

The client will:

- Receive or self-administer the drugs correctly
- Experience relief of symptoms for which anticholinergic drugs are given
- Be assisted to avoid or cope with adverse drug effects on vision, thought processes, bowel and bladder elimination, and heat dissipation

Interventions

Use measures to decrease the need for anticholinergic drugs. For example, with peptic ulcer disease, teach the client to avoid factors known to increase gastric secretion and GI motility (alcohol; cigarette smoking; caffeine-containing beverages, such as coffee, tea, and cola drinks; ulcerogenic drugs, such as aspirin). Late evening snacks also should be avoided because increased gastric acid secretion occurs approximately 90 minutes after eating and may cause pain and awakening from sleep. Although milk was once considered an "ulcer food," it contains protein and calcium, which promote acid secretion, and is a poor buffer of gastric acid. Thus, drinking large amounts of milk should be avoided.

Evaluation

- Interview and observe in relation to safe, accurate drug administration.
- Interview and observe for relief of symptoms for which the drugs are given.
- Interview and observe for adverse drug effects.

PRINCIPLES OF THERAPY

Use in Specific Conditions

Renal or Biliary Colic

Atropine is sometimes given with morphine or meperidine to relieve the severe pain of renal or biliary colic. It acts mainly to decrease the spasm-producing effects of the opioid analgesics. It has little antispasmodic effect on the involved muscles and is not used alone for this purpose.

Preoperative Use in Clients With Glaucoma

Glaucoma is usually listed as a contraindication to anticholinergic drugs because the drugs impair outflow of aqueous humor and may cause an acute attack of glaucoma (increased intraocular pressure). However, anticholinergic drugs can be given safely before surgery to clients with open-angle glaucoma (80% of clients with primary glaucoma) if they are receiving miotic drugs, such as pilocarpine. If anticholinergic preoperative medication is needed in clients predisposed to angle closure, the hazard of causing acute glaucoma can be minimized by also giving pilocarpine eye drops and acetazolamide (Diamox).

Gastrointestinal Disorders

When anticholinergic drugs are given for GI disorders, larger doses may be given at bedtime to prevent pain and awakening during sleep.

Parkinsonism

When these drugs are used in parkinsonism, small doses are given initially and gradually increased. This regimen decreases adverse reactions.

Extrapyramidal Reactions

When used in drug-induced extrapyramidal reactions (parkinson-like symptoms), these drugs should be prescribed only if symptoms occur. They should not be used routinely to prevent extrapyramidal reactions because fewer than half the clients taking antipsychotic drugs experience such reactions. Most drug-induced reactions last approximately 3 months and do not recur if anticholinergic drugs are discontinued at that time. (An exception is tardive dyskinesia, which does not respond to anticholinergic drugs and may be aggravated by them.)

Muscarinic Agonist Poisoning

Atropine is the antidote for poisoning by muscarinic agonists such as certain species of mushrooms, cholinergic agonist drugs, cholinesterase inhibitor drugs, and insecticides containing organophosphates. Symptoms of muscarinic poisoning include salivation, lacrimation, visual disturbances, bronchospasm, diarrhea, bradycardia, and hypotension. Atropine blocks the poison from interacting with the muscarinic receptor, thus reversing the toxic effects.

Asthma

Oral anticholinergics are not used to treat asthma and other chronic obstructive pulmonary diseases because of their tendency to thicken secretions and form mucus plugs in airways. Ipratropium (Atrovent) may be given by inhalation to produce bronchodilation without thickening of respiratory secretions.

Toxicity of Anticholinergics: Recognition and Management

Overdosage of atropine or other anticholinergic drugs produces the usual pharmacologic effects in a severe and exaggerated form. The anticholinergic overdose syndrome is characterized by hyperthermia; hot, dry, flushed skin; dry mouth; mydriasis; delirium; tachycardia; ileus; and urinary retention. Myoclonic movements and choreoathetosis may be seen. Seizures, coma, and respiratory arrest may also occur. Treatment involves use of activated charcoal to absorb ingested poison. Hemodialysis, hemoperfusion, peritoneal dialysis, and repeated doses of charcoal are not effective in removing anticholinergic agents.