

Introduction to Clinical Pharmacology

Chapter 25 Cholinergic Drugs



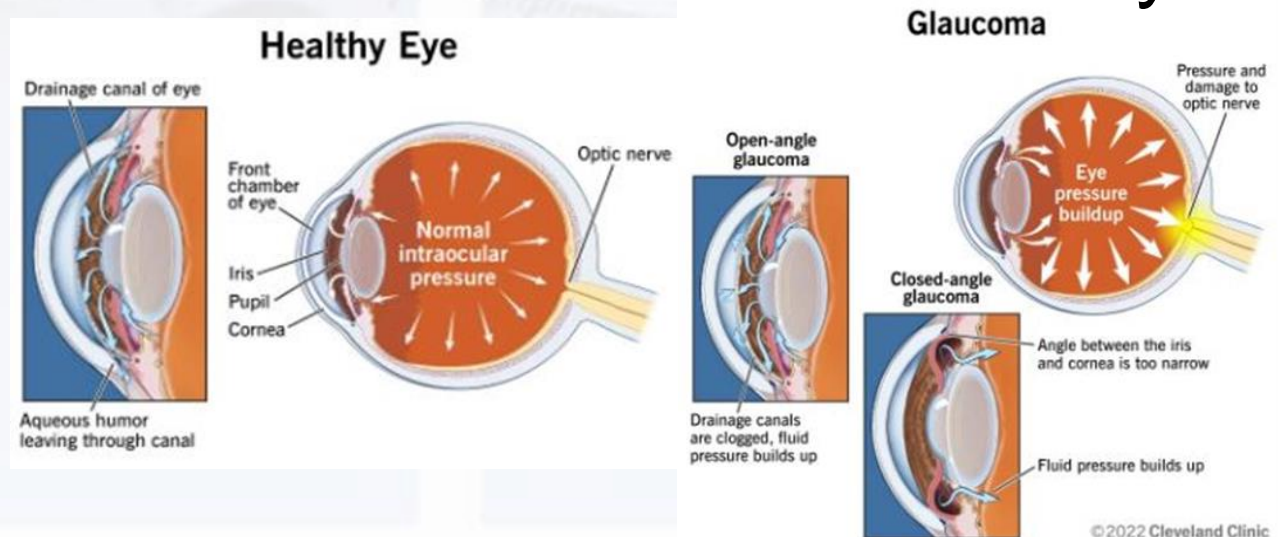
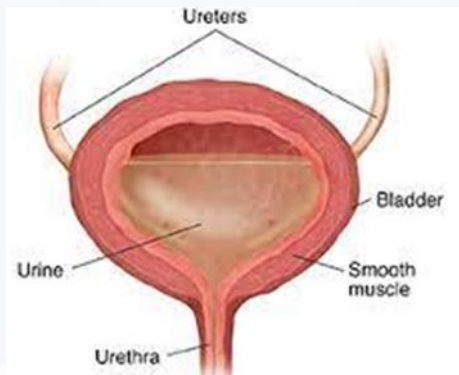
Cholinergic Drugs: Actions

- Cholinergic drugs: act like neurotransmitter acetylcholine or may inhibit release of the enzyme acetylcholinesterase
- Treatment of urinary retention with cholinergic drugs causes contraction of bladder smooth muscles and passage of urine
- Treatment of glaucoma with cholinergic drugs produces miosis



Cholinergic Drugs: Uses and Adverse Reactions

- Cholinergic drugs used in the treatment of:
 - Urinary retention; myasthenia gravis; glaucoma
- Adverse reactions:
 - Nausea; diarrhea; abdominal cramping; salivation; flushing of the skin; cardiac arrhythmias; muscle weakness
 - Topical administration: reduction of visual acuity and headache



Cholinergic Drugs: Contraindications

- Contraindicated in patients:
 - With hypersensitivity to drugs; asthma; peptic ulcer disease; coronary artery disease; hyperthyroidism
 - Bethanechol: patients with mechanical obstruction of GI or genitourinary tracts
 - Ophthalmic cholinergic preparation: patients with secondary glaucoma, iritis, corneal abrasion, or any acute inflammatory disease of the eye



Cholinergic Drugs: Precautions and Interactions

- ❖ Used cautiously in patients with
 - hypertension; epilepsy; cardiac arrhythmias; bradycardia; recent coronary occlusion; megacolon

Interactant drug	Effect of interaction
Aminoglycoside antibiotics	Increased neuromuscular blocking effect
Corticosteroids	Decreased effect of the cholinergic



Nursing Process: Assessment #1

- Preadministration assessment:

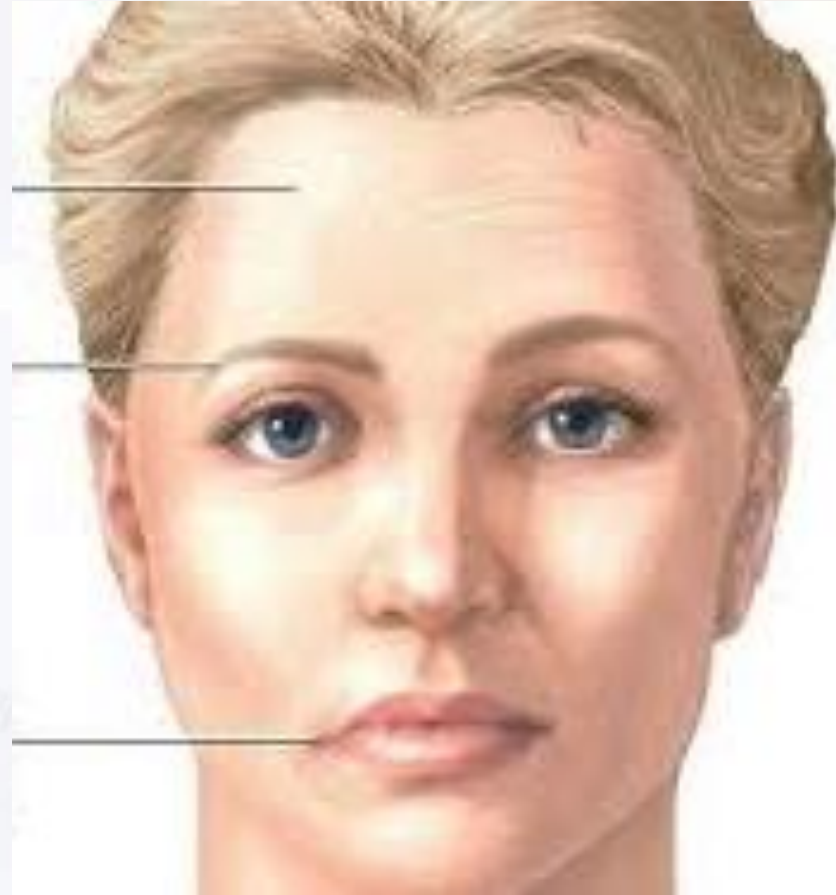
–Glaucoma:

- Primary health care provider thoroughly examines the eye
- Review the primary health care provider's diagnosis and comments
- Take patient health history; evaluate patient's ability to carry out activities of daily living



Nursing Process: Assessment #2

- Preadministration assessment (cont.)
 - Myasthenia gravis:
 - Assess for signs of muscle weakness: drooling; inability to chew and swallow; drooping of eyelids; inability to perform repetitive movements; difficulty breathing; extreme fatigue
 - Urinary retention:
 - Palpate abdomen in pelvis area to determine if distention is present; rounded swelling over pelvis usually indicates retention and distended bladder



Nursing Process: Assessment #3

- Ongoing assessment:
 - Monitor for drug toxicity or cholinergic crisis
 - Glaucoma:
 - Check eye and area around the eye daily for evidence of redness, inflammation, and excessive secretions



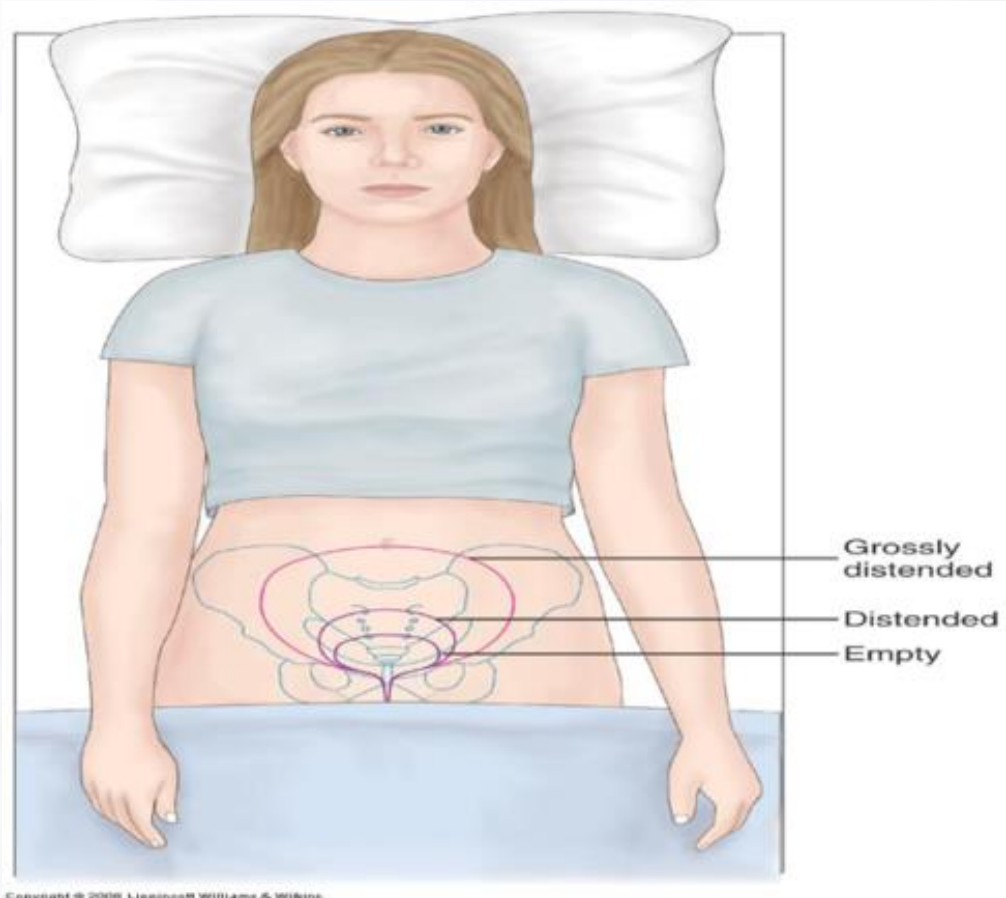
Nursing Process: Assessment #4

- Ongoing assessment (cont.)
 - Myasthenia gravis:
 - Document any increase in symptoms of the disease or adverse drug reactions before giving each dose of the drug
 - Assess patient for presence or absence of the symptoms of myasthenia gravis before each drug dose



Nursing Process: Assessment #5

- Ongoing assessment (cont.)
 - Urinary retention:
 - Measure and record fluid intake, output
 - Notify primary health care provider if patient fails to void after drug administration
 - Palpate the bladder to determine its size



Nursing Process: Planning

- Expected outcome:
 - Optimal response to therapy
 - Support of patient needs related to management of adverse reactions
 - Understanding of and compliance with prescribed therapeutic regimen



Nursing Process: Implementation #1

- Promoting an optimal response to therapy:
 - Managing glaucoma:
 - Check primary health care provider's order and drug label carefully when instilling any ophthalmic preparation
 - Check name of the drug and drug dosage, strength as stated on label



Nursing Process: Implementation #2

- Promoting an optimal response to therapy (cont.)
 - Managing myasthenia gravis:
 - Sustained-released tablets are available that allow less frequent dosing and help patient to have longer undisturbed periods during night
 - Managing urinary retention:
 - Place the call light and any other items the patient might need, such as the urinal or the bedpan, within easy reach



Nursing Process: Implementation #3

- Monitoring and managing patient needs:
 - Observe patient closely for appearance of adverse drug reactions, such as change in vital signs or an increase in symptoms
 - Document any complaints the patient may have and notify the primary health care provider



Nursing Process: Implementation #4

- Monitoring and managing patient needs (cont.)
 - Disturbed sensory perception: visual
 - Drug-induced myopia may occur after instillation of cholinergic ophthalmic drug for treatment of glaucoma
 - Assist the patient in getting out of bed or ambulating; obstacles that may hinder ambulation or result in falls are placed out of way, especially during night



Nursing Process: Implementation #5

- Monitoring and managing patient needs (cont.)

–Diarrhea:

- Ensure that proper facilities, such as a bedside commode, bedpan, or bathroom, are readily available
- Keep record of fluid intake and output and number, consistency, and frequency of stools if diarrhea is present



Nursing Process: Implementation #6

- Educating the patient and family:
 - Emphasize the importance of uninterrupted drug therapy
 - Explore any problems that appear to be associated with prescribed drug regimen and then report to the primary health care provider
 - Review purpose of drug therapy with patient and family, as well as adverse reactions that may occur



Nursing Process: Implementation #7

- Educating the patient and family (cont.)
 - Glaucoma:
 - Warn the patient that eye drops may sting when instilled into the eye and that this is normal
 - Advise the patient to observe caution while driving or performing any task that requires visual acuity
 - Notify the primary health care provider if abdominal cramping, diarrhea, or excessive salivation occurs



Nursing Process: Implementation #8

- Educating the patient and family (cont.)
 - Myasthenia gravis:
 - Teach patient and family members to recognize symptoms of overdose and underdosage
 - Instruct patient to keep a record of response to drug therapy and to bring this to each primary health care provider or clinic visit



Nursing Process: Evaluation

- Therapeutic effect is achieved
- Adverse reactions are identified, reported, and managed successfully through appropriate nursing interventions
- Patient verbalizes importance of complying with the prescribed treatment regimen
- Patient complies with the prescribed drug regimen
- Patient and family demonstrate understanding of the drug regimen

