

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME Josh Hernandez

MEDICATION Enalapril REVIEW MODULE CHAPTER _____

CATEGORY CLASS Ace inhibitor

PURPOSE OF MEDICATION

Expected Pharmacological Action

-Angiotensin-converting enzyme (ACE) inhibitors block the conversion of angiotensin I to the vasoconstrictor angiotensin II. ACE inhibitors also prevent degradation of bradykinin and other vasodilatory prostaglandins. ACE inhibitors also increase plasma renin levels and decrease aldosterone levels. Net result is systemic vasodilation.

Therapeutic Use

- Lower of BP in patients with hypertension
- Increased survival
- increase survival and reduction of symptoms in patients with symptomatic heart failure
- Decreased development of overt heart failure

Complications

CV: hypotension, chest pain.
Derm: rash.
F and E: hyperkalemia.
GI: abdominal pain, diarrhea, nausea, vomiting.
GU: proteinuria, impaired renal function.
Neuro: dizziness, fatigue, headache, vertigo, weakness.
Resp: cough, dyspnea.
Misc: ANGIOEDEMA

Medication Administration

Hypertension
PO(adults):2.5-5 mg once daily increase as required up to 40 mg/day in 1-2 divided doses (initiate therapy at 2.5 mg once daily in patients receiving diuretics)
IV (Adults):0.625-1.25 mg (0.625 mg if receiving diuretics) every 6hrs can be titrated up to 5mg every 6hrs (renal impairment)
-PO, IV Adults:CCr 10-50 ml/min-75% of dose; CCr 10 ml/min-50%dose (heart failure)
(PO adults): 2.5 mg 1-2 times daily, titrated up to target dose of 10mg twice daily; initiate therapy at 2.5 mg once daily in patients with hyponatremia (Asymptomatic left ventricular dysfunction)
-PO (adults):2.5 mg twice daily, titrated upward to a target dose of 10mg twice daily.

Contraindications/Precautions

- hypersensitivity
- history of angioedema
- concurrent use with aliskiren in patients with diabetes or moderate to severe renal impairment
- concurrent use with sacubitril/valsartan
- renal impairment
- African americans
- surgery/anesthesia

Nursing Interventions

-Hypertension: Monitor BP and pulse frequently during initial dose adjustment and periodically during therapy. Notify health care professional of significant changes.
Monitor frequency of prescription refills to determine compliance.
Assess patient for signs of angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing); may occur at any time during therapy. Discontinue medication and provide supportive care.

Monitor renal function. May cause increase in BUN and serum creatinine.
May cause hyperkalemia.
Monitor CBC periodically during therapy in patients with collagen vascular disease and/or renal disease. May rarely cause slight hemoglobin and hematocrit and agranulocytosis.
May cause decrease AST, ALT, alkaline phosphatase, and serum bilirubin.
Correct volume depletion, if possible, before initiation of therapy due to possible precipitous drop in BP during first 1-3 hr following first dose. Risk of hypotension may be decreased by discontinuing diuretics or cautiously increasing salt intake 2-3 days prior to beginning enalapril.
Monitor BP closely. Resume diuretics if BP is not controlled.
PO: Administer once daily. For patients with difficulty swallowing tablets, oral solution is available. Shake solution before each use. Solution is stable at controlled room temperature for 60 days.

Interactions

- Concurrent use with sacubitril increase risk of angioedema
- excessive hypotension with diuretics
- hypotension with antihypertensives
- risk of hyperkalemia with concurrent use of potassium supplements
- NSAIDs and selective COX-2 inhibitors may blunt the antihypertensive effect and the increase risk of renal dysfunction
- increase levels and may increase the risk of lithium toxicity
- increase risk of angioedema with tamsulosin, sirolimus, or everolimus

Client Education

Emphasize the importance of continuing to take medication as directed at the same time each day, even if feeling well. Take missed doses as soon as remembered but not if almost time for next dose. Do not double doses. Warn patient not to discontinue enalapril unless directed by health care professional.
Caution patient to avoid salt substitutes containing potassium or foods containing high levels of potassium or sodium unless directed by health care professional. See Appendix M.
Caution patient to change positions slowly to minimize orthostatic hypotension. Use of alcohol, standing for long periods, exercising, and hot weather may increase orthostatic hypotension.
Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications, especially NSAIDs and cough, cold, or allergy remedies.
May cause dizziness, especially during first few days of therapy. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
Advise patient to inform health care professional of medication regimen before treatment or surgery.
Instruct patient to notify health care professional immediately if rash; mouth sores; sore throat; fever; swelling of hands or feet; irregular heart beat; chest pain; dry cough; hoarseness; swelling of face, eyes, lips, or tongue; or if difficulty swallowing or breathing occurs. Persistent dry cough may occur and may not subside until medication is discontinued. Consult health care professional if cough becomes bothersome. Also notify health care professional if nausea, vomiting, or diarrhea occurs and continues.
Advise diabetic patients to monitor blood glucose closely, especially during first mo of therapy; may cause hypoglycemia.

Evaluation of Medication Effectiveness

- Decrease blood pressure
- laboratory tests such as BUN and creatinine and electrolyte levels
- Heart function tests such as an echocardiogram