

Angiotensin converting enzyme Inhibitor:

↳ captopril, enalapril, lisinopril, Ramipril, Perindopril
Captopril: Used as 1st line - Antihypertensive drug.

MOA $\rightarrow$ ACE

1) Inhibit the generation of Angiotensin II Result in:

- Dilation of Arterioles $\rightarrow \downarrow$ PR. $\rightarrow \downarrow$ B.P.
- 2) $\downarrow$ in Aldosterone production $\rightarrow \downarrow$ Na⁺ of H₂O Retention $\rightarrow \downarrow$ B.P
- 3) Inhibit the degradation of bradykinin (potent vasodilator) by ACE
- 4) Inhibit the synthesis of vasoconstricting prostaglandins through bradykinin.

↓
Antihypertensive effect:

$\rightarrow$ captopril $\uparrow$ Plasma kinin level and potentiates the hypotensive Action
 $\rightarrow$ DACHF the Renin level is Raised and Antihypertensive drug of captopril
causes fall in B.P.

$\rightarrow$ The Arteries dilate and compliance of large arteries is $\uparrow$ sed

PK: orally, food Reduce the Absorption of captopril, hence it should be
taken ~~empty~~ ^{on empty} stomach.

ADR:

Cough (dry cough): Bradykinin is metabolized by ACE.

Inhibitor of ACE Results in $\uparrow$ sed bradykinin $\rightarrow$ ^{long term} ~~long term~~ ^{edema} ~~edema~~ cough

Angioedema: Swelling in the nose, lips, mouth, throat, larynx

Proteinuria:

Reproductive effect: Rash, loss of taste sensation, Itching, Nausea, Dizziness

Hypotension, Hyponatremia

CI: It is the kidney associated with Renal artery stenosis.

Drug Interaction: ACE Inhibitor $\times$ potassium sparing diuretic.

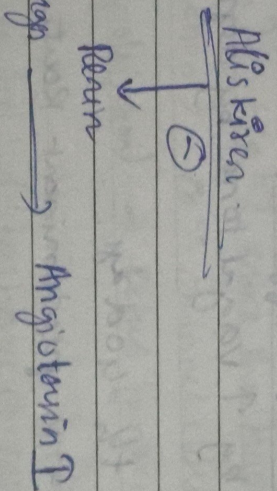
ACE Inhibitor $\times$ Lithium

" $\times$ Thiazides.

THERAPEUTIC USES OF ACE INHIBITORS:

- Hypertension → 1st line drug in all grades of hypertension
does not cause electrolyte disturbance, hypotension
Sexual dysfunction, HT interference, lower vascular mortality
- Acute MI → ACE inhibitor should be started within 24 hours.
- CHF → to improve LV function
- Diabetic nephropathy → ↓ GFR & delay renal effluent Arteriole → ↓
Intraglomerular pressure.
- Sclerodermia Renal crisis: ↑ B.P. & deterioration of renal function in Sclerodermia crisis

DIRECT RENIN INHIBITOR - ALISKIREN:



↓ level of Angiotensin I ↓ Angiotensin II