

Enalapril Plus Hama Pharma

TABLETS

Enalapril Maleate / Hydrochlorothiazide 5/12.5, 10/25mg

WARNING: FETAL TOXICITY

- When pregnancy is detected, discontinue the drug as soon as possible.
- Drugs that act directly on the renin-angiotensin system can cause injury and death to the developing fetus.

COMPOSITION:

Each tablet of Enalapril Plus Hama Pharma 5/12.5 contains: Enalapril maleate 5 mg and Hydrochlorothiazide 12.5 mg.
Each tablet of Enalapril Plus Hama Pharma 10/25 contains: Enalapril maleate 10 mg and Hydrochlorothiazide 25 mg.

Excipients: Corn starch, Lactose monohydrate, Magnesium stearate, Sodium bicarbonate, Pre-gelatinized starch.

MECHANISM OF ACTION:

As a result of its diuretic effects, hydrochlorothiazide increases plasma renin activity, increases aldosterone secretion, and decreases serum potassium. Administration of Enalapril maleate blocks the renin-angiotensin-aldosterone axis and tends to reverse the potassium loss associated with the diuretic. In clinical studies, the extent of blood pressure reduction seen with the combination of Enalapril maleate and hydrochlorothiazide was approximately additive. The anti-hypertensive effect of the drug was usually sustained for at least 24 hours.

PHARMACOKINETICS:

Enalapril Maleate:

Absorption and metabolism: Following oral administration of Enalapril maleate, peak serum concentrations of Enalapril occur within about one hour. Enalapril absorption is not influenced by the presence of food in the gastrointestinal tract. Following absorption, Enalapril is hydrolyzed to Enalaprilat, which is a more potent angiotensin converting enzyme inhibitor than Enalapril; Enalaprilat is poorly absorbed when administered orally. Peak serum concentrations of Enalapril occur 3 to 4 hours after an oral dose of Enalapril maleate.

Elimination: Excretion of Enalaprilat and Enalapril is primarily renal. Approximately 94 % of the dose is recovered in the urine and feces as Enalaprilat or Enalapril.

Distribution: The serum concentration profile of Enalaprilat exhibits a prolonged terminal phase, apparently representing a small fraction of the administered dose that has been bound to ACE.

The amount bound does not increase with dose, indicating a saturable site of binding. The effective half-life for accumulation of Enalaprilat following multiple doses of Enalapril maleate is 11 hours. The deposition of Enalapril and Enalaprilat in patients with renal insufficiency is similar to that in patients with normal renal function until the glomerular filtration rate is 30 mL/min or less.

Hydrochlorothiazide:

Absorption: After oral use diuresis begins within 2 hours, peaks in about 4 hours and lasts about 6 to 12 hours.

Metabolism, Elimination and distribution: Hydrochlorothiazide is not metabolized but is eliminated rapidly by the kidney. When plasma levels have been followed for at least 24 hours, the plasma half-life has been served to vary between 5.6 and 14.8 hours. At least 61 % of the oral dose is eliminated unchanged within 24 hours. Hydrochlorothiazide crosses the placental but not the blood-brain barrier.

INDICATIONS:

This drug is indicated for the treatment of hypertension. This fixed dose combination is not indicated for initial treatment.

CONTRAINDICATIONS:

- This drug is contraindicated in:
 - Patients who are hypersensitive to any component of this product.
 - Patients with a history of angioedema related to previous treatment with an angiotensin converting enzyme inhibitor.
 - Patients with hereditary or idiopathic angioedema.
 - Because of the hydrochlorothiazide component, this product is contraindicated in patients with anuria or hypersensitivity to other sulfonamide-derived drugs.
 - Do not co-administer aliskiren with this drug in patients with diabetes.

ADVERSE REACTIONS:

The most frequent clinical adverse experiences: dizziness, headache, fatigue and cough. Generally, adverse experiences were mild and transient in nature. Adverse experiences occurring in greater than two percent of patients: dizziness, headache, fatigue and cough, Muscle Cramps, Nausea, Asthenia, Orthostatic Effects, Impotence, Diarrhea.

WARNINGS:

Enalapril Maleate:

- **Hypotension:** Excessive hypotension was rarely seen in uncomplicated hypertensive patients but is a possible consequence of Enalapril use in persons such as those treated vigorously with diuretics or patients on dialysis. Syncope has been reported in 1.3 % of patients receiv-

ing the drug. In patients with severe congestive heart failure, with or without associated renal insufficiency, excessive hypotension has been observed and may be associated with oliguria and/or progressive azotemia, and rarely with acute renal failure and/or death. Because of the potential fall in blood pressure in these patients, therapy should be started under very close medical supervision. Such patients should be followed closely for the first 2 weeks of treatment and whenever the dose of Enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart or cerebrovascular disease, in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident. If hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses, which usually can be given without difficulty once the blood pressure has increased after volume expansion.

- **Anaphylactoid and Possibly Related Reactions:** Presumably because angiotensin-converting enzyme inhibitors affect the metabolism of certain products, including endogenous bradykinin, patients receiving ACE inhibitors (including enalapril) may be subject to a variety of adverse reactions, some of them serious.
- **Head and Neck Angioedema:** Angioedema of the face, extremities, lips, tongue, glottis and/or larynx has been reported in patients treated with angiotensin converting enzyme inhibitors, including enalapril. This may occur at any time during treatment. Angioedema associated with laryngeal edema may be fatal. Patients receiving coadministration of ACE inhibitor and mTOR (mammalian target of rapamycin) inhibitor (e.g., temsirolimus, sirolimus, everolimus) therapy may be at increased risk for angioedema.

- **Intestinal Angioedema:** Intestinal angioedema has been reported in patients treated with ACE inhibitors. These patients presented with abdominal pain (with or without nausea or vomiting); in some cases there was no prior history of facial angioedema.

- Anaphylactoid reactions have been reported in patients dialyzed with high-flux membranes and treated concomitantly with an ACE inhibitor.

- **Neutropenia/Agranulocytosis:** Marketing experience has revealed cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

- **Hepatic Failure:** Patients receiving ACE inhibitors who develop jaundice or marked elevations of hepatic enzymes should discontinue the ACE inhibitor and receive appropriate medical follow-up.

Hydrochlorothiazide:

- Thiazides should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma.

- Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. The possibility of exacerbation or activation of systemic lupus erythematosus has been reported. Lithium generally should not be given with thiazides.

- **Acute Myopia and Secondary Angle-Closure Glaucoma:** Hydrochlorothiazide, a sulfonamide, can cause an idiosyncratic reaction, resulting in acute transient myopia and acute angle-closure glaucoma. Symptoms include acute onset of decreased visual acuity or ocular pain and typically occur within hours to weeks of drug initiation. Untreated acute angle-closure glaucoma can lead to permanent vision loss. The primary treatment is to discontinue hydrochlorothiazide as rapidly as possible.

PRECAUTION:

Enalapril Maleate:

- **Aortic Stenosis/Hypertrophic Cardiomyopathy:** As with all vasodilators, Enalapril should be given with caution to patients with obstruction in the outflow tract of the left ventricle.
- **Impaired Renal Function:** As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals.

- In patients with severe congestive heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with angiotensin converting enzyme inhibitors, including Enalapril, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death. In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20 percent of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy.

- Some patients with hypertension or heart failure with no apparent pre-existing renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when enalapril has been given concomitantly with a diuretic. This is more likely to occur in patients with pre-existing renal impairment. Dosage reduction of enalapril and/or discontinuation of the diuretic may be required.

- **Hyperkalemia:** Elevated serum potassium (greater than 5.7 mEq/L) was observed in approximately 1 % of hypertensive patients in clinical trials treated with Enalapril alone. Hyperkalemia was less frequent (approximately 0.1 %) in patients treated with Enalapril plus hydrochlorothiazide. Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements and/or

potassium-containing salt substitutes, which should be used cautiously, if at all, with Enalapril.

- **Cough:** Presumably due to the inhibition of the degradation of endogenous bradykinin, persistent nonproductive cough has been reported with all ACE inhibitors, always resolving after discontinuation of therapy. ACE inhibitor-induced cough should be considered in the differential diagnosis of cough.

- **Surgery/Anesthesia:** In patients undergoing major surgery or during anesthesia with agents that produce hypotension, Enalapril may block angiotensin II formation.

Hydrochlorothiazide:

- Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals for all patients receiving thiazide therapy. Hypokalemia may develop, especially with brisk diuresis, when severe cirrhosis is present, or after prolonged therapy. Hypokalemia may cause cardiac arrhythmia and may also sensitize or exaggerate the response of the heart to the toxic effects of digitalis (e.g., increased ventricular irritability). Because enalapril reduces the production of aldosterone, concomitant therapy with enalapril attenuates the diuretic-induced potassium loss. Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction. Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy. In diabetic patients, dosage adjustments of insulin or oral hypoglycemic agents may be required. If progressive renal impairment becomes evident consider withholding or discontinuing diuretic therapy.

- Thiazides have been shown to increase the urinary excretion of magnesium; this may result in hypomagnesemia.

- Thiazides may decrease urinary calcium excretion. Thiazides may cause intermittent and slight elevation of serum calcium in the absence of known disorders of calcium metabolism. Increases in cholesterol and triglyceride levels may be associated with thiazide diuretic therapy.

Pregnancy:

Enalapril Maleate: When used in pregnancy during the second and third trimesters, ACE inhibitors can cause injury and even death to the developing fetus. When pregnancy is detected, discontinue the drug as soon as possible.

Hydrochlorothiazide: Thiazides cross the placental barrier and appear in cord blood. There is a risk of fetal or neonatal jaundice, thrombocytopenia and possibly other adverse reactions that have occurred in adults.

Lactation: Enalapril, enalaprilat, and hydrochlorothiazide have been detected in human breast milk. Because of the potential for serious reactions in nursing infants from either drug, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Drug interactions:

Enalapril Maleate:

- **Dual Blockade of the Renin-Angiotensin System (RAS):** Dual blockade of the RAS with angiotensin receptor blockers, ACE inhibitors, or aliskiren is associated with increased risks of hypotension, hyperkalemia, and changes in renal function (including acute renal failure) compared to monotherapy.

- **Hypotension – Patients on Diuretic Therapy:** Patients on diuretics and especially those, in whom diuretic therapy was recently instituted, may occasionally experience an excessive reduction of blood pressure after initiation of therapy with Enalapril. The possibility of hypotensive effects with Enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with Enalapril.

- **Agents Causing Renin Release:** The antihypertensive effect of Enalapril is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

- **Non-steroidal Anti-inflammatory Agents including Selective Cyclooxygenase-2 Inhibitors (COX-2 Inhibitors):** In patients who are elderly, volume-depleted (including those on diuretic therapy), or with compromised renal function, co-administration of NSAIDs, including selective COX-2 inhibitors, with ACE inhibitors, including Enalapril, may result in deterioration of renal function, including possible acute renal failure. These effects are usually reversible.

- **Other Cardiovascular Agents:** Enalapril has been used concomitantly with beta adrenergic blocking agents, methyldopa, nitrates, calcium blocking agents, hydralazine and prazosin without evidence of clinically significant adverse interactions.

- **Agents Increasing Serum Potassium:** Enalapril attenuates diuretic-induced potassium loss. Potassium sparing diuretics (e.g., spironolactone, trimeterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia they should be used with caution and with frequent monitoring of serum potassium.

- **Lithium:** Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors.

- **Gold:** Nitritoid reactions (symptoms include facial flushing, nausea, vomiting and hypotension) have been reported rarely in patients on therapy with injectable gold (sodium aurothiomalate) and concomitant ACE inhibitor therapy including enalapril.

- **mTOR (mammalian target of rapamycin) inhibitors:** Patients receiving coadministration of ACE inhibitor or mTOR inhibitor (e.g., temsirolimus, sirolimus, everolimus) therapy may be at increased risk for angioedema.

Hydrochlorothiazide:

- **Alcohol, barbiturates, or narcotics:** Potentiation of orthostatic hypotension may occur.
- **Antidiabetic drugs (oral agents and insulin):** Dosage adjustment of the antidiabetic drug may be required.
- **Other antihypertensive drugs:** Additive effect or potentiation.
- **Cholestyramine and colestipol resins:** Absorption of hydrochlorothiazide is impaired in the presence of anionic exchange resins.
- **Corticosteroids, ACTH:** Intensified electrolyte depletion, particularly hypokalemia.
- **Pressor amines (e.g., norepinephrine):** possible decreased response to pressor amines but not sufficient to preclude their use.
- **Skeletal muscle relaxants, nondepolarizing (e.g., tubocurarine):** Possible increased responsiveness to the muscle relaxant.
- **Lithium:** Diuretic agents reduce the renal clearance of lithium and add a high risk of lithium toxicity.
- **Non-steroidal Anti-inflammatory Drugs:** When this drug and non-steroidal anti-inflammatory agents are used concomitantly, the patient should be observed closely to determine if the desired effect of the diuretic is obtained.

DOSEAGE AND ADMINISTRATION:

Usual dosage range of Enalapril is 10 to 40 mg per day administered in a single or 2 divided doses. Hydrochlorothiazide is effective in doses of 12.5 to 50 mg daily.

Patient whose blood pressure is not adequately controlled with either enalapril or hydrochlorothiazide monotherapy may be given this drug (10-25). Further increases of Enalapril, hydrochlorothiazide or both depend on clinical response. The hydrochlorothiazide dose should generally not be increased until 2-3 weeks have elapsed.

In general, patients do not require doses in excess of 20 mg of Enalapril or 50 mg of hydrochlorothiazide.

The daily dosage should not exceed two tablets of this drug (10-25).

Replacement Therapy: The combination may be substituted for the titrated components. Use in Renal Impairment: The usual regimens of therapy with this drug need not be adjusted as long as the patient's creatinine clearance is >30 mL/min/1.73 m (serum creatinine approximately ≤3 mg/dL or 265 μmol/L). In patients with more severe renal impairment, loop diuretics are preferred to thiazides, so enalapril maleate/hydrochlorothiazide is not recommended.

Pediatric Use: Safety and effectiveness in pediatric patients have not been established.

Geriatric Use: Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection. Evaluation of the hypertensive patient should always include assessment of renal function.

OVERDOSAGE:

No specific information is available on the treatment of overdose with this drug. Treatment is symptomatic and supportive. Therapy with this drug should be discontinued and the patient observed closely.

Enalapril Maleate: The most likely manifestation of overdose would be hypotension, for which the usual treatment would be intravenous infusion of normal saline solution.

Hydrochlorothiazide: The most common signs and symptoms observed are those caused by electrolyte depletion (hypokalemia, hypochloremia, hyponatremia) and dehydration resulting from excessive diuresis. If digitalis has also been administered, hypokalemia may accentuate cardiac arrhythmias.

PRESENTATION:

A box of 3 blisters, each contains 10 tablets.

STORAGE:

"Store at room temperature, between 20° - 25° C, away from moisture & light"
"Keep out of reach of children"

TPP1205607	THIS IS A MEDICAMENT
- A medicament is a product but unlike any other products. - A medicament is a product which affects your health, and its consumption contrary to instructions is dangerous for you. - Follow strictly the doctor's prescription, the method of use and the instructions of the pharmacist who sold the medicament. The doctor and the pharmacist are experts in medicine, its benefits and risks. - Do not by yourself interrupt the period of treatment prescribed for you. - Do not repeat the same prescription without consulting your doctor.	
KEEP MEDICAMENTS OUT OF REACH OF CHILDREN (Council of Arab Health Ministers) (Arab Pharmacists Association)	

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