AMTEL Tablet

Tablets:5/40mg,10/40mg
5/80mg,10/80mg

(AMLODIPINE/TELMISARTAN)

DESCRIPTION:

Amtel is an Angiotensin II receptor blocker (ARB) and a dihydropyridine calcium channel blocker (DHP-CCB) combination product indicated for the treatment of hypertension alone or with other antihypertensive agents

• Amtel tablets are indicated as initial therapy in patients likely to need multiple antihypertensive agents to achieve their blood pressure goals

The empirical formula of AMLODIPINE is $C_{20}H_{25}ClN_2O_5$ and its molecular weight is 408.9g/mol.

The empirical formula of TELMISARTAN is $C_{33}H_{30}N_4O_2$ its molecular weight is 514.6g/mol

CLINICAL PHARMACOLOGY:

Pharmacokinetics

Telmisartan

Following oral administration, peak concentrations (Cmax) of Telmisartan are reached in 0.5–1 hour after dosing. Food slightly reduces the bioavailability of Telmisartan, with a reduction in the area under the plasma concentration-time curve (AUC) of about 6% with the 40 mg tablet and about 20% after a 160 mg dose. The absolute bioavailability of Telmisartan is dose dependent. At 40 and 160 mg the bioavailability was 42% and 58%, respectively. The pharmacokinetics of orally administered Telmisartan are nonlinear over the dose range 20-160 mg, with greater than proportional increases of plasma concentrations (Cmax and AUC) with increasing doses. Telmisartan shows bi-exponential decay kinetics with a terminal elimination half life of approximately 24 hours. Trough plasma concentrations of Telmisartan with once daily dosing are about 10-25% of peak plasma concentrations.Telmisartan has an accumulation index in plasma of 1.5 to 2.0 upon repeatedonce daily dosing.

Amlodipine

Peak plasma concentrations of Amlodipine are reached 6-12 hours after administration of Amlodipine alone. Absolutebioavailability has been estimated to be between 64% and 90%. The bioavailability of Amlodipine is not altered by thepresence of food. Elimination of Amlodipine from the plasma is biphasic with a terminal elimination half-life of about 30- 50 hours. Steady state plasma levels of Amlodipine are reached after 7-8 days of consecutive daily dosing.

Mechanism of Action

Telmisartan

Angiotensin II is formed from Angiotensin I in a reaction catalyzed by Angiotensin-converting enzyme (ACE, kininase II). Angiotensin II is the principal pressor agent of the renin-angiotensin system, with effects that include vasoconstriction, stimulation of synthesis and release of aldosterone, cardiac stimulation, and renal reabsorption of sodium. Telmisartan blocks the vasoconstrictor and aldosterone-secreting effects of Angiotensin II by selectively blocking the binding of Angiotensin II to the AT1 receptor in many tissues, such as vascular smooth muscle and the adrenal gland. Its action is therefore independent of the pathways for Angiotensin II synthesis.

Amlodipine

Amlodipine is a dihydropyridine calcium channel blocker that inhibits the transmembrane influx of calcium ions into vascular smooth muscle and cardiac muscle. Experimental data suggest that Amlodipine binds to both dihydropyridine and nondihydropyridine binding sites. The contractile processes of cardiac muscle and vascular smooth muscle are dependent upon the movement of extracellular calcium ions into these cells through specific ion channels. Amlodipine inhibits calcium ion influx across cell membranes selectively, with a greater effect on vascular smooth muscle cells than on cardiac muscle cells. Negative inotropic effects can be detected in vitro but such effects have not been seen in intact animals at therapeutic doses. Serum calcium concentration is not affected by Amlodipine. Within the physiologic pH range, Amlodipine is an ionized compound (pKa=8.6), and its kinetic interaction with the calcium channel receptor is characterized by a gradual rate of association and dissociation with the receptor binding site, resulting in a gradual onset of effect.

INDICATION AND USAGE:
Telmisartan and Amlodipine tablets are indicated for the treatment of hypertension, alone or with other antihypertensive agents to lower blood pressure. Lowering blood pressure reduces the risk of fatal and nonfatal cardiovascular events, primarily strokes and myocardial infarctions. These benefits have been seen in controlled trials of antihypertensive drugs from a wide variety of pharmacologic classes including Angiotensin II receptor blockers and dihydropyridine calcium channel blockers. There are no controlled trials demonstrating risk reduction with Telmisartan and Amlodipine tablets.
Telmisartan is an effective treatment of hypertension in once daily doses of 20 to 80 mg while Amlodipine is effective in doses of 2.5 to 10 mg .Dosage must be individualized and may be increased after at least 2 weeks. Most of the antihypertensive effect is apparent within 2 weeks and maximal reduction is generally attained after 4 weeks.

DOSAGE AND ADMINISTRATION:
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WARNINGS AND PRECAUTIONS:
Hypersensitivity to the active substances, to dihydropyridine derivatives, or to any of the excipients Second and third trimesters of pregnancy

- Biliary obstructive disorders and severe hepatic impairment
- Shock (including cardiogenic shock)
- Obstruction of the outflow tract of the left ventricle (e.g. high grade aortic stenosis)
- Haemodynamically unstable heart failure after acute myocardial infarction

DRUG INTERACTIONS:
No drug interaction studies have been conducted with Amtel A tablets and other drugs,
although studies have been conducted with the individual Amlodipine and Telmisartan components of Amtel tablets, as described below Drug Interactions with Telmisartan Digoxin: When Telmisartan was co-administered with digoxin, median increases in digoxin peak plasma concentration (49%) and in trough concentration (20%) were observed. I Lithium: Reversible increases in serum lithium concentrations and toxicity have been reported during concomitant administration of lithium with Angiotensin II receptor antagonists including Telmisartan. Drug Interactions with Amlodipine In clinical trials, Amlodipine has been safely administered with thiazide diuretics, beta-blockers, Angiotensin-converting enzyme inhibitors, long-acting nitrates, sublingual nitroglycerin, digoxin, warfarin, non-steroidal anti-inflammatory drugs, antibiotics, and oral hypoglycemic drugs.

POSSIBLE SIDE EFFECTS:
The most common side effects of Telmisartan and Amlodipine tablets include:
- swelling in your hands, ankles, or feet
- Feeling like your heart is pounding or racing
- Flushing or sudden redness of the face and neck
- Dizziness • back pain • feeling tired or sleepy
- Abdominal pain, nausea, or diarrhea
- Low blood pressure or a sudden drop in blood pressure with fainting

STORAGE & INSTRUCTIONS:
Keep out of reach of children & Store below 30°C.
Protect from sunlight & moisture
Improper storage may deteriorate the medicine
Do not use this medicine after the expiry date which is stated on the blister.

PRESENTATION:
Amtel Tablets: 40/5 mg, 40/10 mg, 80/5 mg, 80/10 mg in pack of 14's

Manufactured by :
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