

# Amlodipine + Atenolol

#### Presentation

**Amtinol** Plus Tablet: Each tablet contains Amlodipine Besilate BP equivalent to Amlodipine 5mg and Atenolol USP 50mg.

#### Description

Amtinol <sup>®</sup> Plus consists of Amlodipine Besilate and Atenolol.Amlodipine Besilate is a dihydropyridine calcium antagonist that inhibits the transmembrane influx of calcium ions into vascular smooth muscle and cardiac muscle. The contractile processes of cardiac muscle and vascular smooth muscle are dependent upon the movement of extracellular calcium ions into these cell 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. Amlodipine acts directly on vessels to cause a reduction in peripheral vascular resistance and reduction in blood pressure. Atenolol is (2-hydroxy-3-isopropyl-aminopropoxy) phenylacetamide, a selective beta blocker. Beta blockers are the adrenoceptor blocking drugs, blocking the effects of adrenergic stimulation mediated through these receptors. It is devoid of intrinsic sympathomimetic activity and it decreases heart rate and cardiac output. Futher, Atenolol decreases plasma renin activity.

### Indications

Hypertension not controlled by monotherapy
Angina pectoris & hypertension co-existing diseases
Post M.I Patients
Refractory angina pectoris where nitrate therapy has failed

# **Dosage and Administration**

The recommended dosage is one tablet daily of **Amtinol** <sup>®</sup> **Plus** 50 (Amlodipine 5mg + Atenolol 50mg) or **Amtinol** <sup>®</sup> **Plus** 25 (Amlodipine 5mg + Atenolol 25mg). Depending upon the therapeutic response, titration of the dosage is recommended. In elderly patients, it is advisable to initiate the therapy with  $\frac{1}{2}$  tablet of fixed dose combination of amlodipine & Atenolol (i.e. 2.5mg of Amlodipine & 25mg Atenolol).

# Contraindications

Amlodipine is contraindicated in patients with known hypersensitivity to dihydropyridines. It should not be used in cardiogenic shock, clinically significant aortic stenosis, unstable angina (excluding Prinzmetal's angina). Atenolol is contraindicated with a known hypersensitivity, severe bradycardia, second degree or the third degree heart block, uncontrolled heart failure, hypotension, severe peripheral vascular disease (including intermittent claudication), sick sinus syndrome, cardiogenic shock, pheocromocytoma (without a concomitant blocker), metabolic acidosis.

#### Precautions

Atenolol may mask the symptoms of hyperthyroidism. It may also mask the symptoms of hypoglycaemia, as well as enhance the effects of hypoglycaemic agents in patients with diabetes mellitus.

## **Drug Interactions**

Amlodipine: No significant drug interactions.

Atenolol: The effects of other myocardial depressant agents, including antiarrhythmics such as Quinidine, procainamide, or Lignocaine, phenytoin and medicines which interfere with calcium transport, such as Verapamil, may also be enhanced by Atenolol. The effects of Atenolol are diminished by beta adrenoceptor stimulating agents such as Isoprenaline; the hypotensive effects of Atenolol may be dangerously reversed and the peripheral vasoconstrictor effects enhanced by alpha adrenoceptor stimulating agents such as noradrenaline or those with mixed alpha and beta adrenoceptor Stimulating properties such as adrenaline; bradycardia may also occur. The effects of Atenolol may be enhanced by adrenergic neuron blocking agents such as Guanethidine or Bethanidine, or Catecholamine-depleting agents such as Reserpine. Atenolol may enhance some of the cardiac effects of digitalis and diminish others. It has been suggested that Clonidine withdrawal symptoms may be exacerbated in patients who are concurrently taking abeta blocker.

### Side Effects

Amlodipine: Peripheral oedema may occasionally be presented but is fully reversible. As with other calcium channel blockers peripheral oedema and skin erythema occur in a proportion of patients and facial flushing occurs in 2-5% of patients. Complaints of fatigue were also reported more frequently than in placebo-treated patients. There is evidence that these effects are more common in patients treated with doses greater than 10mg daily.

Atenolol: Pronounced fatigue and cold extremities have been observed in 10 to20% of the treated subjects. Complaints of bradycardia, dizziness and gastrointestinal symptoms are less frequent. Despite its relative selectivity. Atenolol can cause bronchospasms in asthma patients. Rarely observed side effects are sleep disturbances, depressions, paraesthesia, impotence, exanthema, psoriasis exacerbations and arthropathies. Clinically relevant changes in the blood sugar have hardly occurred.

# Use in Special Population

Pregnancy and lactation: Atenolol crosses the placenta. So it is contraindicated in pregnancy. It should be avoided during lactation.

## **Commercial Packs**

Amtinol<sup>®</sup> Plus Tablets: Box containing 50 tablets in 5x10's blister strips.



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