Cardex®

Carvedilol

Description: Carvedilol (**Cardex®**) is a cardiovascular drug whose main pharmacological action is non-selective antagonism of ß-adrenergic receptors but it also possesses appreciable α_1-adrenergic activity. It also has antiproliferative properties and is a scavenger of reactive free oxidant radicals.

Mode of action: Carvedilol (**Cardex®**) is a vasodilating non-selective beta-blocking agent with antioxidant properties. Vasodilation is predominantly mediated through α_1 receptor antagonism. Carvedilol reduces the peripheral vascular resistance through vasodilation and suppresses the renin angiotensin-aldosterone system through ß-blockade. The activity of plasma renin is reduced and fluid retention is rare.

Pharmacokinetics: The absolute bioavailability of carvedilol is approximately 25%. Bioavailability is stereoselective, 30% for the R-form and 15% for the S-form. Serum levels peak at approximately 1 hour after an oral dose. Carvedilol is highly lipophilic; approximately 98% to 99% is bound to plasma proteins.

Composition: Cardex® 3.125 mg Tablet: Each tablet contains Carvedilol BP 3.125 mg.
Cardex® 6.25 mg Tablet: Each tablet contains Carvedilol BP 6.25 mg.
Cardex® 12.5 mg Tablet: Each tablet contains Carvedilol BP 12.5 mg.

Indications: Hypertension, angina, adjunct to diuretics, digoxin or ACE inhibitors in symptomatic chronic heart failure.

Dosage and administration: *Hypertension*, initially 12.5 mg once daily, increased after 2 days to usual dose of 25 mg once daily; if necessary may be further increased at intervals of at least 2 weeks to maximum 50 mg daily in single dose or divided doses; *Elderly,* initial dose of 12.5 mg daily may provide satisfactory control. *Angina,* initially 12.5 mg twice daily, increased after 2 days to 25 mg twice daily. *Adjunct to heart failure,* initially 3.125 mg twice daily (with food), dose increased at interval of at least 2 weeks to 12.5 mg twice daily, then to 25 mg twice daily; increase to highest dose tolerated, max. 25 mg twice daily in patients with severe heart failure or body weight less than 85 kg and 50 mg twice daily in patients over 85 kg.

Contraindications: Carvedilol is contraindicated in patients with marked fluid retention or overload requiring intravenous ionotropic support. Patients with obstructive airways disease, liver dysfunction, history of bronchospasm or asthma, 2nd and 3rd degree A-V heart block, (unless a permanent pacemaker is in place), severe bradycardia (< 50 bpm), cardiogenic shock, sick sinus syndrome (including sino-atrial block), severe hypotension (systolic blood pressure < 85 mm Hg), metabolic acidosis and phaeochromocytoma (unless adequately controlled by α–blockade).

Side effects: Postural hypotension, dizziness, headache, fatigue, gastro-intestinal disturbances, bradycardia, occasionally diminished peripheral circulation, peripheral oedema and painful extremities, dry mouth, dry eyes, eye irritation or disturbed vision, impotence, disturbances of micturition, influenza like symptoms, rarely angina, AV block, exacerbation of intermittent claudication or Raynaud's phenomenon, allergic skin reactions, exacerbation of psoriasis , nasal stuffiness, wheezing, depressed mood, sleep disturbances, paraesthesia, heart failure, changes in liver enzymes, thrombocytopenia, leucopenia also reported.

Use in pregnancy and lactation: Carvedilol should not be used during pregnancy as no studies have been performed in this group. Carvedilol should not be used in breast feeding.

Precautions: In chronic heart failure patients, worsening cardiac failure or fluid retention may occur during uptitration of carvedilol. In hypertensive patients who have chronic heart failure controlled with digoxin, diuretics and/or an ACE inhibitor, Carvedilol should be used with caution since both digoxin and carvedilol may slow A-V conduction. As with other drugs with beta-blocking activity, carvedilol may mask the early signs of acute hypoglycemia in patients with diabetes mellitus.

Drug Interactions: As with other agents with ß-blocking activity, carvedilol may potentiate the effect of other concomitantly administered drugs that are antihypertensive in action (e.g. α_1-receptor antagonists) or have hypotension as part of their adverse effect profile. Patients taking an agent with α-blocking properties and a drug that can deplete catecholamines (e.g. reserpine and monoamine oxidase inhibitors) should be observed closely for signs of hypotension and/or severe bradycardia. Isolated cases of conduction disturbance (rarely with haemodynamic disruption) have been observed when carvedilol and diltiazem were given concomitantly.

Overdosage: Profound cardiovascular effects such as hypotension and bradycardia would be expected after massive overdose. Heart failure, cardiogenic shock and cardiac arrest may follow. There may also be respiratory problems, bronchospasm, vomiting, disturbed consciousness and generalized seizures.

Storage: Store in a cool (Below 25˚ C temperature) and dry place protected from light.

Packaging: Cardex® 3.125 mg Tablet: Each carton contains 14X8 tablets in blister pack.
Cardex® 6.25 mg Tablet: Each carton contains 14X4 tablets in blister pack.
Cardex® 12.5 mg Tablet: Each carton contains 14X3 tablets in blister pack.