

Dementa XR

Memantine HCl USP

Composition

Dementa XR 7 Capsule: Each extended release capsule contains Memantine Hydrochloride USP 7 mg.

Dementa XR 14 Capsule: Each extended release capsule contains Memantine Hydrochloride USP 14 mg.

Description

Dementa (Memantine HCl) is a voltage dependent, uncompetitive, with moderate affinity, NMDA (N-methyl-D-aspartate) receptor antagonist that binds to the NMDA receptor channel and regulates the Calcium influx into the neurons. The chemical name of Memantine Hydrochloride is 1-amino-3, 5 -dimethyladamantane hydrochloride.

Mode of Action

Persistent activation of N-methyl-D-aspartate (NMDA) receptors in central nervous system by the excitatory amino acid glutamate has been hypothesized to contribute to the symptomatology of Alzheimer's disease. Memantine is postulated to exert its therapeutic effect through its action as a low to moderate affinity as an uncompetitive (open-channel) NMDA receptor antagonist which binds preferentially to the NMDA receptor-operated cation channels.

Pharmacokinetics

Memantine is well absorbed after oral administration and has linear pharmacokinetics over the therapeutic dose range. It is excreted predominantly unchanged in the urine and has a terminal elimination half life of about 60-80 hours. Following oral administration, Memantine is highly absorbed with peak concentrations reached in about 3-7 hours. Food has no effect on the absorption of Memantine. The mean volume of distribution of Memantine is 9-11 L/kg and the plasma protein binding is low (45%). Memantine undergoes partial hepatic metabolism. About 48% of administered drug is excreted unchanged in urine; the remainder is converted primarily to three polar metabolites which possess minimal NMDA receptor antagonistic activity: the N-glucuronide conjugate, 6-hydroxy Memantine and 1-nitroso-deaminated Memantine. A total of 74% of the administered dose is excreted as the sum of the parent drug and the N-glucuronide conjugate. The hepatic microsomal CYP-450 enzyme system does not play a significant role in the metabolism of Memantine.

Indications

Memantine is indicated for the treatment of all forms of dementia of the Alzheimer's type. Memantine may also be indicated in other types of dementia.

Dosage and Administration

Memantine hydrochloride can be taken with or without food.

Memantine XR capsule: The recommended starting dose of memantine XR capsule is 7 mg once daily, recommended maximum maintenance dose is 28 mg once daily. The minimum recommended interval between dose increases is one week and only if the previous dose has been well tolerated. The maximum recommended dose is 28 mg once daily.

Switching from Memantine tablets to Memantine XR capsules: It is recommended that a patient who is on a regimen of 10 mg twice daily memantine tablets be switched to memantine XR 28 mg once daily capsules the day following the last dose of 10mg memantine tablet.

In case of renal impairment: A target dose of 14 mg / day is recommended in patients with severe renal impairment (creatinine clearance: 5-29 ml/min).

In case of hepatic impairment: No dosage adjustment is needed in patients with mild or moderate hepatic impairment. Dementa XR should be administered with caution to patients with severe hepatic impairment.

Side Effects

Most frequent side effects (frequency of 2% or less) include hallucination, confusion, dizziness, headache and fatigue. Occasional side effects include anxiety, hypertonus (heightened muscle tension), vomiting, bladder infections and increased sexual drive. If there is a history of epileptic seizures, there is a slight chance that Dementa may increase the probability of an attack.

Drug Interactions

Amantadine, Anticholinergics, Anticonvulsives, Baclofen, Barbiturates, Cimetidine, Dantrolene, Dextromethorphan, Dopaminergic, Hydrochlorothiazide, Ketamine, Neuroleptics, Nicotine, Procainamide, Quinidine, Quinine, Ranitidine.

Contraindications

Memantine is contraindicated in patients with known hypersensitivity to Memantine Hydrochloride or to any excipients used in the formulation.

Precautions

Caregivers should be instructed in the recommended administration (twice per day for doses above 5 mg) and dose escalation (minimum interval of one week between dose increases). If the patients suffer from kidney dysfunction, the kidney function should be monitored at regular basis.

Neurological Conditions

Seizures: Memantine has not been systematically evaluated in patients with a seizure disorder. One clinical trial shows that seizures occurred in 0.2% of patients treated with Memantine and 0.5% of patients treated with placebo.

Carcinogenesis, Mutagenesis and Impairment of Fertility

Study shows that no risk of carcinogenesis, mutagenesis and impairment of fertility are caused after Memantine use.

Pregnancy and Lactation

Pregnancy Category B. Yet there are no adequate and well-controlled studies of Memantine in pregnant women. Memantine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. It is not known whether Memantine is excreted in human breast milk. Because many drugs are excreted in human milk, caution should be exercised when Memantine is administered to a nursing mother.

Operating Vehicles or Machinery

Taking Memantine may alter the reaction time significantly; therefore safe driving and safe operation of machinery may no longer be possible.

Overdose

Symptoms of memantine overdose in clinical trial include agitation, confusion, ECG changes, loss of consciousness, psychosis, restlessness slow movement, somnolence, stupor, unsteady gait, visual hallucinations, vertigo, vomiting and weakness.

Missed Dose

If any dose is missed, just wait and take the next dose at the usual time. Do not double the dose to compensate for the missed dose.

Storage Condition

Do not store above 25°C. Protect from light. Keep out of reach of children.

Packaging

Dementa XR 7 Capsule: Each carton contains 3x10's capsules in blister pack.

Dementa XR 14 Capsule: Each carton contains 4x8's capsules in blister pack.

Manufactured by

 **Ziska Pharmaceuticals Ltd.**
Kaliakoir, Gazipur, Bangladesh

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