VIRASERC

Tablets

Composition

Each tablet contains Betahistine hydrochloride 16 mg

Action

The mechanism of action of betahistine is only partly understood. There are several plausible hypotheses that are supported by animal studies and human data:

Betahistine affects the histaminergic system
Betahistine acts both as a partial histamine H_1-receptor agonist and histamine H_3-receptor antagonist also in neuronal tissue, and has negligible H_2-receptor activity. Betahistine increases histamine turnover and release by blocking presynaptic H_3-receptors and inducing H_3-receptor downregulation.

Betahistine may increase blood flow to the cochlear region as well as to the whole brain:
Pharmacological testing in animals has shown that the blood circulation in the striae vascularis of the inner ear improves, probably by means of a relaxation of the precapillary sphincters of the microcirculation of the inner ear. Betahistine was also shown to increase cerebral blood flow in humans.

Betahistine facilitates vestibular compensation
Betahistine accelerates the vestibular recovery after unilateral neurectomy in animals, by promoting and facilitating central vestibular compensation; this effect characterized by an up-regulation of histamine turnover and release, is mediated via the H_3 Receptor antagonism. In human subjects, recovery time after vestibular neurectomy was also reduced when treated with betahistine.

Betahistine alters neuronal firing in the vestibular nuclei
Betahistine was also found to have a dose dependent inhibiting effect on spike generation of neurons in lateral and medial vestibular nuclei.

The pharmacodynamic properties as demonstrated in animals may contribute to the therapeutic benefit of betahistine in the vestibular system.

The efficacy of betahistine was shown in studies in patients with vestibular vertigo and with Ménière's disease as was demonstrated by improvements in severity and frequency of vertigo attacks.

Pharmacokinetics
Absorption
Orally administered betahistine is readily and almost completely absorbed from all parts of the gastro-intestinal tract. After absorption, the drug is rapidly and almost completely metabolized into 2-pyridylacetic acid. Plasma levels of betahistine are very low. Pharmacokinetic analyses are therefore based on 2-PAA measurements in plasma and urine.

Under fed conditions Cmax is lower compared to fasted conditions. However, total absorption of betahistine is similar under both conditions, indicating that food intake only slows down the absorption of betahistine.

Distribution
The percentage of betahistine that is bound by blood plasma proteins is less than 5 %.

Biotransformation
After absorption, betahistine is rapidly and almost completely metabolized into 2-PAA (which has no pharmacological activity).

After oral administration of betahistine the plasma (and urinary) concentration of 2-PAA reaches its maximum 1 hour after intake and declines with a half-life of about 3.5 hours.

Excretion
2-PAA is readily excreted in the urine. In the dose range between 8 and 48 mg, about 85% of the original dose is recovered in the urine. Renal or faecal excretion of betahistine itself is of minor importance.

Linearity
Recovery rates are constant over the oral dose range of 8 – 48 mg indicating that the pharmacokinetics of betahistine are linear, and suggesting that the involved metabolic pathway is not saturat

Indications
- Meniere's disease.
- Meniere-Like syndromes characterized by attacks of vertigo, tinnitus and/or progressive hearing loss.
- Symptomatic treatment of peripheral vertigo.

Contraindications
- During pregnancy and lactation
- Children less than 12 years
- Patients suffering from phaeochromocytoma
- Patients with active peptic ulcer or a history of this condition
- Patients with hypersensitivity to any component of the product

Warnings
Pregnancy
Category C
Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

Adverse Reactions
Gastrointestinal disturbances, including dyspepsia headache and skin rashes have been reported.

Precautions
Betahistine should be given with care to patients with asthma, peptic ulcer or a history of peptic ulcer. It ha been suggested that it should not be given concomitantly with antihistamines.

Drug Interactions
Although an antagonism between Betahistine and antihistamines could be expected on a theoretical basis, no such interactions have been reported.

Diagnostic Interference
Betahistine does not produce false-positive reactions in standard diagnostic urine tests.

Dosage and Administration
Adults (including the elderly)
The usual initial dose is 8-16 mg 3 times daily, taken preferably with meals. Maintenance doses ranging from 24-48 mg daily have been recommended.

Although improvement can usually be observed within a few days, it is sometimes very gradual and only clearly noticeable after several weeks of treatment. Therefore, continued treatment is recommended, as optimal results are usually obtained after a few months.

Viraserc is well tolerated in long-term treatment. There is some evidence that treatment from the onset of the disease can prevent the progression of the syndrome and\or the hearing loss on the later stages.

Children
There are no dosage recommendations for children.

Over Dosage
There is no specific antidote for over dosage with Betahistine. Gastric lavage and symptomatic treatment recommended.

Presentation
Viraserc 16 mg
Box of 30 tablets