

Sinarest[®] Levo^{new} Tablets

1. Composition

Levocetirizine	5mg
Ambroxol HCl	60mg

2. Dosage form and strength

Sinarest Levo new Tablets are available in blister pack of 10 tablets.

3. Clinical particulars

3.1 Therapeutic indication

Sinarest Levo new Tablet is used in treatment of:

- Sinusitis
- Allergic rhinitis
- Acute Suppurative Otitis Media (ASOM)

3.2 Posology and method of administration

Recommended oral dose of Sinarest Levo new Tablet for adult is one tablet once a day.

3.3 Contraindication

Sinarest Levo new Tablet is contraindicated in patients with:

- Known hypersensitivity for any ingredient of Sinarest LP neo syrup
- End stage renal disease
- Renal impairment

3.4 Special warnings and precautions for use

None.

3.5 Drug interactions

In vitro data indicate that levocetirizine is unlikely to produce pharmacokinetic interactions through inhibition or induction of hepatic drug metabolizing enzymes.



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3.6 Use in special population

- Pediatric: As directed by doctor.
- Geriatric: No adaptation of the dose is necessary in elderly patients, provided their renal function is normal.
- Liver impairment: Patients who only have impaired liver function should take the usual prescribed dose.
- Renal failure: Patients who have severe impairment of kidney function must not take Sinarest LP neo syrup.
- Pregnancy and lactation: Not recommended.

3.7 Effects on ability to drive and use machine

Use caution when driving or operating machinery until you know how this medicine affects you.

3.8 Undesirable effects

Levocetirizine: The most common adverse reactions reported in clinical trials were: somnolence, nasopharyngitis, fatigue, dry mouth, and pharyngitis in subjects 12 years of age and older, and pyrexia, somnolence, cough, and epistaxis in children 6 to 12 years of age.

Ambroxol can cause following side effects:

Common (may affect less than 1 in 10 patients)

- Taste disturbance
- Numbness in throat
- Nausea
- Numbness in mouth and tongue

Uncommon (may affect less than 1 in 100 patients)

- Diarrhoea
- Vomiting 4 / 5
- Indigestion
- Dry mouth
- Abdominal pain

Rare (may affect less than 1 in 1 000 patients)

- Hypersensitivity reactions
- Rash
- Urticaria

3.9 Overdose



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There is limited experience of overdose with Sinarest Levo new Tablets. Initiate general symptomatic and supportive measures in all cases of overdosages where necessary.

4. Pharmacological properties

4.1 Mechanism of action

Levocetirizine is an inverse agonist that decreases activity at histamine H1 receptors. This in turn prevents the release of other allergy chemicals and increased blood supply to the area, and provides relief from the typical symptoms associated with seasonal and perennial allergic rhinitis. It does not prevent the actual release of histamine from mast cells.

Ambroxol is a mucolytic agent. Excessive Nitric oxide (NO) is associated with inflammatory and some other disturbances of airways function. NO enhances the activation of soluble guanylate cyclase and cGMP accumulation. Ambroxol has been shown to inhibit the NO-dependent activation of soluble guanylate cyclase. It is also possible that the inhibition of NO-dependent activation of soluble guanylate cyclase can suppress the excessive mucus secretion; therefore it lowers the phlegm viscosity and improves the mucocilliary transport of bronchial secretions.

4.2 Pharmacodynamic properties

Levocetirizine is a second generation histamine H1 antagonist used to treat various allergic symptoms. It has a long duration of action as it is generally taken once daily, and a wide therapeutic window as animal studies show the maximal nonlethal dose is over 100x a normal dose. Patients are cautioned to avoid tasks that require complete alertness, avoid alertness, and use caution in patients with factors predisposing urinary retention.

Ambroxol hydrochloride is a well-known and widely used secretolytic and secret motoric agent used for inflammatory diseases of the respiratory tract. Hence its pharmacodynamic model is generally well known, and there are no clinically relevant pharmacodynamic issues known at this point.

4.3 Pharmacokinetic properties

Levocetirizine is rapidly and extensively absorbed following oral administration. In adults, peak plasma concentrations are achieved 0.9 hour after administration of the oral tablet. Levocetirizine is poorly metabolized and undergo renal excretion.

The bioavailability of orally administered ambroxol HCl is high. Ambroxol HCl is highly protein-bound (80% to 90%) and is distributed widely and readily throughout the body. Ambroxol HCl is primarily cleared by metabolism and the resulting metabolites are eliminated renally. Unchanged ambroxol HCl was present in urine at less than 5% of the



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administered dose. Ambroxol HCl is predominantly metabolised by hepatic biotransformation via UGTs and to a lesser extent by CYP450. Ambroxol HCl is metabolised by multiple pathways in humans, but only one metabolite (DBAA) was determined to be major.

5. Nonclinical properties

5.1 Animal Toxicology or Pharmacology

Not required.

6. Description

Already mentioned and covered in the above points.

7. Pharmaceutical particulars

7.1 Incompatibilities

There are no known incompatibilities.

7.2 Shelf-life

24 months.

7.3 Storage and handling instructions

Store in cool and dry place.



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