

Acebrophylline

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ABSTRACT

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Acebrophylline is a drug showing specific bronchodilator, anti-inflammatory, and mucoregulator activity. Indicated for the treatment of chronic obstructive pulmonary disease, bronchial asthma, bronchitis, and sinusitis.

Keywords: Acebrophylline, Bronchodilator, Bronchial asthma

*See End Note for complete author details

Acebrophylline is a drug showing specific bronchodilator, anti-inflammatory, and mucoregulator activity. It is the salt obtained by reaction of equimolar amounts of theophylline-7-acetic acid, a xanthine derivative with specific bronchodilator activity, and ambroxol, a mucolytic and expectorant.

Indication

Indicated for the treatment of chronic obstructive pulmonary disease, bronchial asthma, bronchitis, and sinusitis.

Mechanism of Action

Theophylline-7-acetate, as with other xanthinic derivatives, has a bronchodilator effect due to inhibition of the intracellular phosphodiesterases, followed by an increase of adenosine monophosphate cyclic levels, which promote the relaxation of bronchial muscles.

Ambroxol modifies the mucous gel phase of secretions by decreasing the viscosity and increasing the serous gel phase. It increases the mucociliary clearance by stimulating cilia motility.

Acebrophylline inhibits phospholipase A₂ and phosphatidylcholine leading to lesser production of the powerful pro-inflammatory substances like leukotrienes and tumour necrosis factor. By inhibiting the synthesis and release of these inflammatory mediators, acebrophylline reduces inflammation, a key factor in airway obstruction, specially in chronic forms.

Pharmacokinetics

In healthy volunteers, given 200mg oral acebrophylline, the two components of the molecule ambroxol and

theophylline-7-acetic acid are released in the stomach and absorbed in the intestine, reaching optimal concentrations of ambroxol within 2hrs and of theophylline-7-acetic acid after 1 hr. The plasma half life varies from 4 to 9 hrs after oral administration. The drug is metabolized in the liver and eliminated renally.

Dosage and Administration

It's usually available as 100mg capsule. The usual recommended dose of acebrophylline is one capsule twice daily. In elderly patients dosage may be adjusted if required. Not recommended in children due to difficulty in swallowing.

Adverse Effects

Commonly reported adverse effects with acebrophylline include abdominal discomfort, stomach/abdominal distension, vomiting, abdominal pain, diarrhea, constipation, heart burn, loss of appetite, esophageal bleeding, rashes, urticaria, itching, drowsiness, difficulty in breathing, leukocytosis, and nasal inflammation. If chills and fever occur the drug should be immediately discontinued.

Rarely occurring adverse events include headache, occasional numbness including numbness in arm, insomnia, tachycardia, fatigue, hypertension, albuminuria, glycosuria, hypotension and occasionally hyperglycemia.

Contraindications

Hypersensitivity to ambroxol, acebrophylline, theophylline or any other xanthine derivative.

Patients suffering from acute myocardial infarction.

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Patients with hypotension, haemodynamic instability, and arrhythmias.

Patients with renal disease or liver disorder.

Acebrophylline is not recommended in pregnancy, parturition and in lactating mothers.

CONCLUSION

Acebrophylline is a novel drug with broncho-dilating, anti-inflammatory and mucoregulating properties with asthma and COPD.

Patient's achieve fast symptomatic relief as compared to conventional theophylline preparations.

Acebrophylline is effective in reducing the severity and frequency of asthma attacks.

Acebrophylline facilitates re-establishment of mucociliary function.

Acebrophylline reduces the risk of relapse and

improves the quality of life in patients with severe airway obstruction.

END NOTE

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REFERENCES

1. What is acebrophylline [Internet]. [cited 2016 Apr 29].