

# Alcysta™

N-Acetylcysteine 150 mg and Taurine 500 mg Tablets

**Augment Renal Protection**

## **Product Description:**

Each film coated tablet contains

- N-Acetylcysteine: 150 mg
- Taurine 500 mg

## **General Information:**

Acute kidney injury (AKI) is one of the most serious and frequent complication of general anaesthesia. Patients suffer from chronic kidney diseases (CKD) predispose to develop AKI. CKD patients often need some surgical interventions that have been done under general anaesthesia, they therefore have an increased probability to develop AKI.

### **N-acetylcysteine (NAC)**

N-acetylcysteine (NAC) is a derivative of cysteine with an acetyl group attached to the amino group of cysteine. N-acetylcysteine is essentially a prodrug that is converted to cysteine (in the intestine by the enzyme amino acylase and absorbed in the intestine into the blood stream. Cysteine is a key constituent to glutathione and hence administration of acetylcysteine replenishes glutathione stores

Acetylcysteine can also be used as a general antioxidant which can help mitigate symptoms for a variety of diseases exacerbated by reactive oxygen species (ROS).

N-acetylcysteine is commonly used in individuals with renal impairment to prevent the precipitation of acute renal failure

Acetylcysteine has been shown to have efficacy in treating mild to moderate traumatic brain injury including ischemic brain injury, particularly in reducing neuronal losses, and also reducing cognitive and neurological symptoms when administered promptly after injury. N-acetylcysteine (NAC) is used as a mucolytic agent and in the management of acetaminophen poisoning.

## **Taurine**

Taurine is a non-essential amino acid for adults but it should be supplied in low birth weight infants and in infant formulas. It is involved in bile acid conjugation, which in turn is needed for fat digestion, absorption of fat-soluble vitamins as well as the control of cholesterol serum levels in the body as well as other physiological functions.

## **Indication & Usage:**

- As prophylaxis in patients who are at risk of developing contrast induced –Acute Kidney Injury (CI-AKI); i.e. patients with acute or chronic renal dysfunction, diabetes, hypertension, CCF, increase age, volume depletion, haemodynamic instability, and those on nephrotoxic agents.
- Kidney Disease Improving Global Outcomes guidelines recommend using NAC with Isotonic crystalloid in patients at increased risk of CI-AKI

## **Dosage and Administration:**

2tablets BIDwith meal

## **Mechanism of Action:**

### **N-Acetylcysteine**

N-Acetylcysteine is a modified form of L-cysteine, an amino acid that is a precursor to reduced glutathione. It is known to be a potent antioxidant that scavenges oxygen-free radicals in the body. It also has vasodilatory properties derived from enhanced nitric oxide availability. Recently, N-Acetylcysteine has been used to prevent acute kidney injury following the administration of iodinated contrast media (CIN).

## **Taurine**

The diet supplements containing taurine function by replacing the missing nutrients in the body. Taurine, as a single agent, presents different functions like substrate for formation of bile salts, cell volume regulation, modulation of intracellular calcium, cytoprotection of central nervous system etc.

## **Contraindication:**

Alcystais contraindicated in patients with known hypersensitivity to any of the ingredients.

## **Drug Interaction:**

- Combined use of antitussives with N-Acetylcysteine may cause mucus congestion due to the reduced cough reflex.
- Oral antibiotics should be administered separately and at an interval of at least 2 hours.

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## **Use in Special Population:**

### **Pregnancy**

This medicine is not recommended for use in pregnant women unless clearly necessary. Your doctor will determine the suitability and safety of the use of this medicine.

### **Breast-feeding**

This medicine is not recommended for use in breastfeeding women unless absolutely necessary and the potential benefits outweigh the risks involved. Doctor may advise to stop breastfeeding for a certain period of time depending on clinical condition of patients.

## **Warning &Precautions:**

### **Acute asthma**

This medicine is not recommended for use in patients suffering from a severe and sudden attack of asthma. It is advised to closely monitor asthma patients during treatment with this medicine.

### **Keratoconjunctivitis**

This medicine should not be used with topical antibiotics for relieving dry eye syndrome due to the increased risk of severe adverse reactions.

### **Paracetamol overdose**

Both the oral and intravenous forms of this medicine are used for the treatment of paracetamol poisoning. The preferred route of administration is based on the time of poisoning and severity of symptoms. It is advised to closely monitor the level of paracetamol in the body and then proceed with the further course of treatment.

### **Allergic skin reaction**

Use of this medicine may cause severe allergic reactions like a rapid fall in blood pressure, difficulty in breathing, rash, etc. Patients should be closely monitored, especially when the intravenous form of the medicine is administered.

## **Side Effects:**

Major & minor side effects are as follows

- Nausea and Vomiting
- Fever
- Runny Nose
- Diarrhoea
- Abdominal pain
- Skin irritation and rashes
- Throat irritation

- Drowsiness
- Chest tightness
- Hives and wheezing
- Difficulty in breathing
- Presence of blood in cough
- Injection site pain
- Cool and moist skin
- Swelling and soreness of the inside of the mouth

