## PYRIDOSTIGMINE BROMIDE- pyridostigmine bromide tablet Amneal Pharmaceuticals of New York LLC

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Pyridostigmine Bromide Tablets, USP (30 mg) Rx only

#### **DESCRIPTION**

Pyridostigmine bromide is an orally active cholinesterase inhibitor. Chemically, pyridostigmine bromide is 3-hydroxy-1-methylpyridinium bromide dimethylcarbamate. Its structural formula is:

Molecular formula: C<sub>9</sub>H<sub>13</sub>BrN<sub>2</sub>O<sub>2</sub> Molecular weight: 261.1 g/mol

Each pyridostigmine bromide tablets USP, 30 mg for oral administration, contains 30 mg pyridostigmine bromide, USP and the following inactive ingredients: colloidal silicon dioxide, lactose anhydrous, magnesium stearate and stearic acid.

#### CLINICAL PHARMACOLOGY

Pyridostigmine bromide inhibits the destruction of acetylcholine by cholinesterase and thereby permits freer transmission of nerve impulses across the neuromuscular junction. Pyridostigmine is an analog of neostigmine (Prostigmin®), but differs from it in certain clinically significant respects; for example, pyridostigmine is characterized by a longer duration of action and fewer gastrointestinal side effects.

#### INDICATIONS AND USAGE

Pyridostigmine bromide tablets are useful in the treatment of myasthenia gravis.

#### CONTRAINDICATIONS

Pyridostigmine bromide is contraindicated in mechanical intestinal or urinary obstruction, and particular caution should be used in its administration to patients with bronchial asthma. Care should be observed in the use of atropine for counteracting side effects, as discussed below.

#### WARNINGS

Although failure of patients to show clinical improvement may reflect underdosage, it can also be indicative of overdosage. As is true of all cholinergic drugs, overdosage of pyridostigmine bromide may result in cholinergic crisis, a state characterized by increasing muscle weakness which, through involvement of the muscles of respiration, may lead to death. Myasthenic crisis due to an increase in the severity of the disease is also accompanied by extreme muscle weakness, and thus may be difficult to distinguish from cholinergic crisis on a symptomatic basis. Such differentiation is extremely important, since increases in doses of pyridostigmine bromide or other drugs of this class in the presence of cholinergic crisis or of a refractory or "insensitive" state could have grave consequences. Osserman and Genkins<sup>1</sup> indicate that the differential diagnosis of the two types of crisis may require the use of Tensilon® (edrophonium chloride) as well as clinical judgment. The treatment of the two conditions obviously differs radically. Whereas the presence of myasthenic crisis suggests the need for more intensive anticholinesterase therapy, the diagnosis of cholinergic crisis, according to Osserman and Genkins $^1$ , calls for the prompt withdrawal of all drugs of this type. The immediate use of atropine in cholinergic crisis is also recommended.

Atropine may also be used to abolish or obtund gastrointestinal side effects or other muscarinic reactions; but such use, by masking signs of overdosage, can lead to inadvertent induction of cholinergic crisis.

For detailed information on the management of patients with myasthenia gravis, the physician is referred to one of the excellent reviews such as those by Osserman and Genkins<sup>2</sup>, Grob<sup>3</sup> or Schwab<sup>4,5</sup>.

## Usage in Pregnancy

The safety of pyridostigmine bromide during pregnancy or lactation in humans has not been established. Therefore, use of pyridostigmine bromide in women who may become pregnant requires weighing the drug's potential benefits against its possible hazards to mother and child.

### **PRECAUTION**

Pyridostigmine is mainly excreted unchanged by the kidney<sup>6,7,8</sup>. Therefore, lower doses may be required in patients with renal disease, and treatment should be based on titration of drug dosage to effect<sup>6,7</sup>.

#### Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

#### **ADVERSE REACTIONS**

The side effects of pyridostigmine bromide are most commonly related to overdosage

and generally are of two varieties, muscarinic and nicotinic. Among those in the former group are nausea, vomiting, diarrhea, abdominal cramps, increased peristalsis, increased salivation, increased bronchial secretions, miosis and diaphoresis. Nicotinic side effects are comprised chiefly of muscle cramps, fasciculation and weakness. Muscarinic side effects can usually be counteracted by atropine, but for reasons shown in the preceding section the expedient is not without danger. As with any compound containing the bromide radical, a skin rash may be seen in an occasional patient. Such reactions usually subside promptly upon discontinuance of the medication.

To report SUSPECTED ADVERSE REACTIONS, contact Amneal Pharmaceuticals at 1-877-835-5472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

#### DOSAGE AND ADMINISTRATION

Pyridostigmine bromide is available in tablets, each containing 30 mg pyridostigmine bromide, USP.

## Dosage

The size and frequency of the dosage must be adjusted to the needs of the individual patient.

The average dose is twenty-30 mg tablets, spaced to provide maximum relief when maximum strength is needed. In severe cases as many as 50 tablets a day may be required, while in mild cases two to twelve tablets a day may suffice.

**NOTE:** For information on a diagnostic test for myasthenia gravis, and for the evaluation and stabilization of therapy, please see product literature on Tensilon<sup>®</sup> (edrophonium chloride).

#### **HOW SUPPLIED**

Pyridostigmine Bromide Tablets USP, **30 mg** are white to off-white, flat-faced, round tablets debossed with "3" on one side and scored on the other side.

They are available as follows:

Bottles of 21 with child-resistant closure: NDC 0115-2134-01

**IMPORTANT:** These tablets are hygroscopic. Keep in a dry place with the silica gel enclosed.

Dispense in original container.

Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° to 30°C (59° to 86°F) [see USP Controlled Room Temperature].

Preserve in a tight, light-resistant container.

KEEP THIS AND ALL MEDICATIONS OUT OF THE REACH OF CHILDREN.

#### REFERENCES

1. Osserman KE, Genkins G. Studies in myasthenia gravis: Reduction in mortality rate

after crisis. JAMA. Jan 1963; 183:97 to 101.

- 2. Osserman KE, Genkins G. Studies in myasthenia gravis. *NY State J Med.* June 1961; 61:2076 to 2085.
- 3. Grob D. Myasthenia gravis. A review of pathogenesis and treatment. *Arch Intern Med.* Oct 1961; 108:615 to 638.
- 4. Schwab RS. Management of myasthenia gravis. *New Eng J Med*. Mar 1963; 268:596 to 597.
- 5. Schwab RS. Management of myasthenia gravis. *New Eng J Med.* Mar 1963; 268:717 to 719.
- 6. Cronnelly R, Stanski DR, Miller RD, Sheiner LB. Pyridostigmine kinetics with and without renal function. *Clin Pharmacol Ther.* 1980; 28: No. 1, 78 to 81.
- 7. Miller RD. Pharmacodynamics and pharmacokinetics of anticholinesterase. In: Ruegheimer E, Zindler M, ed. *Anesthesiology*. (Hamburg, Germany: Congress; Sep 14 to 21, 1980; 222 to 223) (Int Congr. No. 538), Amsterdam, Netherlands: Excerpta Medica; 1981.
- 8. Breyer-Pfaff U, Maier U, Brinkmann AM, Schumm F. Pyridostigmine kinetics in healthy subjects and patients with myasthenia gravis. *Clin Pharmacol Ther*. 1985; 5:495 to 501.

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Distributed by:

Amneal Pharmaceuticals LLC

Bridgewater, NJ 08807

Rev. 04-2022-00

#### PRINCIPAL DISPLAY PANEL

NDC 0115-2134-01

Pyridostigmine Bromide Tablets, USP

30 mg

Rx only

21 Tablets

**Amneal Pharmaceuticals LLC** 

NDC 0115-2134-01

Unit-Of-Use

**Pyridostigmine Bromide** Tablets, USP

30 mg

CAUTION: EXTREMELY MOISTURE SENSITIVE. DO NOT REMOVE DESICCANT. CLOSE TIGHTLY.

Rx only

21 Tablets



Each tablet contains 30 mg pyridostigmine bromide, USP.

Usual Dosage: See accompanying package insert.

**IMPORTANT:** These tablets are hygroscopic. Keep in a dry place with the silica gel enclosed.

Dispense in original container.

This package is child-resistant. Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° to 30°C (59° to 86°F) [see USP Controlled Room Temperature].

Preserve in a tight, light-resistant container.

KEEP THIS AND ALL MEDICATIONS OUT OF THE REACH

OF CHILDREN.

Distributed by: **Amneal Pharmaceuticals LLC** 

Bridgewater, NJ 08807

Rev. 12-2021-00



(For Lot And Exp. Date) (24 X 51 mm)

## PYRIDOSTIGMINE BROMIDE

pyridostigmine bromide tablet

amneal

#### **Product Information**

**Product Type HUMAN PRESCRIPTION DRUG** NDC:0115-2134 Item Code (Source)

**Route of Administration ORAL** 

## **Active Ingredient/Active Moiety**

**Ingredient Name Basis of Strength Strength** PYRIDOSTIGMINE BROMIDE (UNII: KVI301NA53) (PYRIDOSTIGMINE -**PYRIDOSTIGMINE** 30 mg **BROMIDE** 

UNII:19QM69HH21)

**Inactive Ingredients Ingredient Name** Strength ANHYDROUS LACTOSE (UNII: 3SY5LH9PMK)

SILICON DIOXIDE (UNII: ETJ7Z6XBU4) STEARIC ACID (UNII: 4ELV7Z65AP)

MAGNESIUM STEARATE (UNII: 70097M6I30)

#### **Product Characteristics**

Color white (white to off-white) Score 2 pieces **ROUND** Size 8mm Shape Flavor 3 **Imprint Code Contains** 

kag	

**Marketing Start** Marketing End **Item Code Package Description Date Date** 

ANDA	ANDA040502	08/08/2022			
Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date		
Marketing Information					
1 NDC:0115-2134- 01	21 in 1 BOTTLE; Type 0: Not a Combination 08/08/2022				

# **Labeler -** Amneal Pharmaceuticals of New York LLC (123797875)

Establishment					
Name	Address	ID/FEI	Business Operations		
Amneal Pharmaceuticals of New York, LLC		123797875	analysis(0115-2134), label(0115-2134), manufacture(0115-2134), pack(0115-2134)		

Revised: 12/2023 Amneal Pharmaceuticals of New York LLC