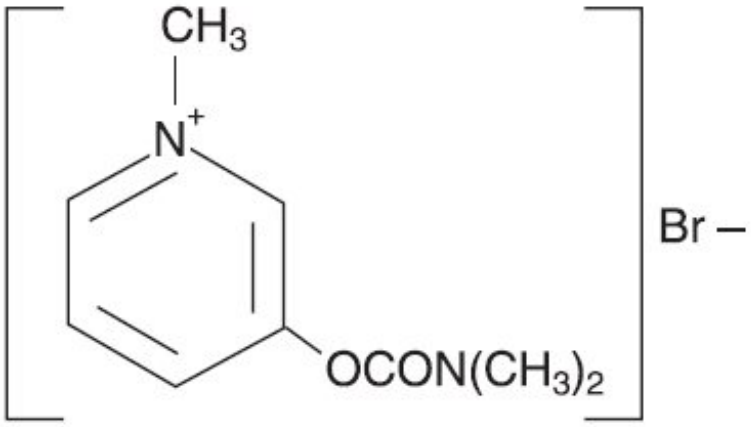
PYRIDOSTIGMINE BROMIDE- pyridostigmine bromide tablet, extended release
Oceanside Pharmaceuticals

Pyridostigmine Bromide
Extended-release Tablets,
180 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:



Pyridostigmine Bromide *Extended-release Tablets* contain 180 mg pyridostigmine bromide; each tablet also contains carnauba wax, corn-derived proteins, magnesium stearate, silica gel and tribasic calcium phosphate.

ACTIONS

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.

INDICATION

Pyridostigmine Bromide Extended-release Tablets are useful in the treatment of myasthenia gravis.

CONTRAINDICATIONS

Pyridostigmine Bromide Extended-release Tablets are 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 Extended-release Tablets 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 Extended-release Tablets 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[1] 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,[2] Grob[3], or Schwab.[4,5]

Usage in Pregnancy

The safety of Pyridostigmine Bromide Extended-release Tablets during pregnancy or lactation in humans has not been established. Therefore, use of Pyridostigmine Bromide Extended-release Tablets 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.[6,7,8] Therefore, lower doses may be required in patients with renal disease, and treatment should be based on titration of drug dosage to effect.[6,7]

Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

ADVERSE REACTIONS

The side effects of Pyridostigmine Bromide Extended-release Tablets 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 Valeant Pharmaceuticals North America LLC at 1-800-321-4576 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DOSAGE AND ADMINISTRATION

Pyridostigmine Bromide Extended-release Tablets

each contain 180 mg pyridostigmine bromide. This form provides uniformly slow release, hence prolonged duration of drug action; it facilitates control of myasthenic symptoms with fewer individual doses daily. The immediate effect of a 180 mg Pyridostigmine Bromide Extended-release Tablet is about equal to that of a 60 mg Pyridostigmine Bromide Tablet; however, its duration of effectiveness, although varying in individual patients, averages 2½ times that of a 60 mg dose.

Dosage

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

One to three 180 mg tablets, once or twice daily, will usually be sufficient to control symptoms; however, the needs of certain individuals may vary markedly from this average. The interval between doses should be at least 6 hours. For optimum control, it may be necessary to use the more rapidly acting regular tablets or syrup in conjunction with extended-release tablets therapy.

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

HOW SUPPLIED

Pyridostigmine Bromide Extended-release Tablets are available as light straw-colored, capsule-shaped tablets containing 180 mg pyridostigmine bromide in bottles of 30 (NDC 68682-301-30). Each tablet is engraved “MES V 180” on one side and is single-scored on the other.

NOTE: Because of the hygroscopic nature of the Extended-release Tablets, mottling may occur. This does not affect their efficacy.

Store Pyridostigmine Extended-release Tablets at 25°C (77°F); excursions permitted to 15°-30°C (59°-86°F). Keep Pyridostigmine Bromide Extended-release Tablets in a dry place with the silica gel enclosed.

REFERENCES

1. Osserman KE, Genkins G. Studies in myasthenia gravis: Reduction in mortality rate after crisis. *JAMA*. Jan 1963; 183:97-101.
2. Osserman KE, Genkins G. Studies in myasthenia gravis. *NY State J Med*. June 1961; 61:2076-2085.
3. Grob D. Myasthenia gravis. A review of patho-genesis and treatment. *Arch Intern Med*. Oct 1961; 108:615-638.
4. Schwab RS. Management of myasthenia gravis. *New Eng J Med*. Mar 1963; 268:596-597.
5. Schwab RS. Management of myasthenia gravis. *New Eng J Med*. Mar 1963; 268:717-719.
6. Cronnelly R, Stanski DR, Miller RD, Sheiner LB. Pyridostigmine kinetics with and without renal function. *Clin Pharmacol Ther*. 1980;28:No. 1, 78-81.
7. Miller RD. Pharmacodynamics and pharmacokinetics of anticholinesterase. In: Ruegheimer E, Zindler M, ed. *Anaesthesiology*. (Hamburg, Germany: Congress; Sep 14-21, 1980; 222-223.) (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; 5:495-501.

Manufactured by:

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Distributed by:
Oceanside Pharmaceuticals, a division of

Valeant Pharmaceuticals North America LLC
Bridgewater, NJ 08807 USA

Rev. August 2016

9472402 20001104C

PACKAGE/LABEL PRINCIPAL DISPLAY PANEL – 180 mg tablets

NDC 68682-301-30

Pyridostigmine Bromide Extended-release Tablets, 180 mg

Rx only

30 Tablets

OCEANSIDE PHARMACEUTICALS

PYRIDOSTIGMINE BROMIDE

pyridostigmine bromide tablet, extended release

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:68682-301
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
PYRIDOSTIGMINE BROMIDE (UNII: KVI301NA53) (PYRIDOSTIGMINE - UNII:19QM69HH21)	PYRIDOSTIGMINE BROMIDE	180 mg

Inactive Ingredients	
Ingredient Name	**Strength**
CARNAUBA WAX (UNII: R12CBM0EIZ)	
ZEIN (UNII: 80N308T1NN)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
TRIBASIC CALCIUM PHOSPHATE (UNII: 91D9GV0Z28)	

Product Characteristics			
Color	YELLOW (light straw)	**Score**	no score
Shape	OVAL (capsule-shaped)	**Size**	19mm
Flavor		**Imprint Code**	MES;V;180
Contains			

Packaging				
#	**Item Code**	**Package Description**	**Marketing Start Date**	**Marketing End Date**
1	NDC:68682-301-30	30 in 1 BOTTLE; Type 0: Not a Combination Product	01/12/1959	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA authorized generic	NDA011665	01/12/1959	

Labeler - Oceanside Pharmaceuticals (832011691)

Establishment

Name	Address	ID/FEI	Business Operations
Bausch Health Companies Inc.		245141858	MANUFACTURE(68682-301)

Revised: 8/2016 Oceanside Pharmaceuticals