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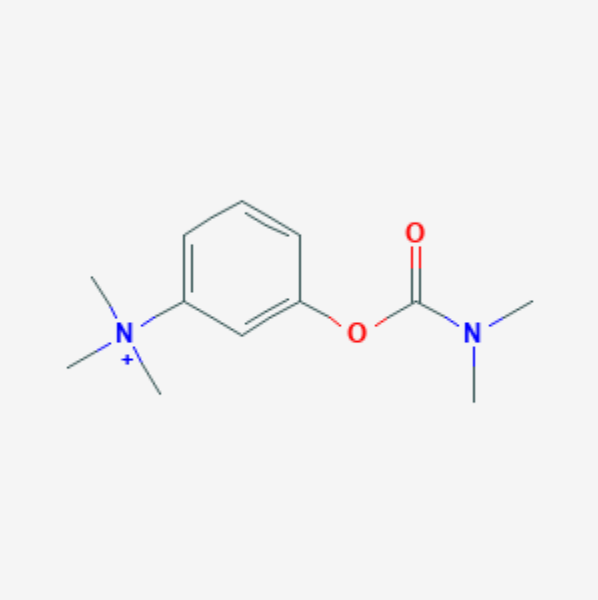
Neostigmine

Revised: October 31, 2018.

CASRN: 59-99-4



Drug Levels and Effects

Summary of Use during Lactation

Limited data indicate that use of neostigmine to treat myasthenia gravis may be acceptable during breastfeeding, although pyridostigmine may be preferred. Monitor newborns because abdominal cramps after each breastfeeding has been reported. Because of its short half-life, single doses of neostigmine to reverse neuromuscular blockade following surgery are unlikely to adversely affect the breastfed infant more than transiently.

Drug Levels

Maternal Levels. In a case series of 12 patients with 21 pregnancies in the 1950s and 1960s, the authors could not detect neostigmine in the breastmilk of several of the mothers. However, details of the dosage, timing and assay sensitivity were not stated.[1]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Six infants of mothers treated with neostigmine for myasthenia gravis were reportedly breastfed successfully. However, 1 newborn infant appeared to have abdominal cramps after each breastfeeding, probably caused by neostigmine. Neostigmine could not be detected in the breastmilk of the infant's mother.[1]

Effects on Lactation and Breastmilk

Relevant published information in nursing mothers was not found as of the revision date. In animals, cholinergic drugs increase oxytocin release,[2] and have variable effects on serum prolactin.[3] The prolactin level in a mother with established lactation may not affect her ability to breastfeed.

Alternate Drugs to Consider

Pyridostigmine

References

1. Fraser D, Turner JW. Myasthenia gravis and pregnancy. Proc R Soc Med. 1963;56:379-81. PubMed PMID: 13085800.
2. Clarke G, Fall CH, Lincoln DW, Merrick LP. Effects of cholinoceptor antagonists on the suckling-induced and experimentally evoked release of oxytocin. Br J Pharmacol. 1978;63:519-27. PubMed PMID: 566601.
3. Muller EE, Locatelli V, Cella S et al. Prolactin-lowering and -releasing drugs: mechanisms of action and therapeutic applications. Drugs. 1983;25:399-432. PubMed PMID: 6133737.

Substance Identification

Substance Name

Neostigmine

CAS Registry Number

59-99-4

Drug Class

Breast Feeding

Lactation

Cholinesterase Inhibitors

Parasympathomimetics