A cost-effective generic

Methylergonovine Maleate Injection, USP (0.2 mg/ml)

AP rated to Methergine®

Approved by the U.S. FDA
Packaged 10 Ampuls per box
NDC# 63704-004-01

To order, call our distributor HPSRX at 800-850-1657

Please see accompanying prescribing information

*Methergine is a registered Trademark of Novartis Pharmaceutical Corporation
Methylergonovine Maleate Injection, USP
Rx Only
DESCRIPTION
Methylergonovine Maleate Injection, USP is a semi-synthetic ergot alkaloid used for the prevention and control of postpartum hemorrhage. Methylergonovine Maleate Injection, USP is available in sterile ampuls of 1 mL, containing 0.2 mg methylergonovine maleate for intramuscular or intravenous injection.

Ampuls, 1 mL, clear, colorless solution.

Active Ingredients: methylergonovine maleate, USP, 0.2 mg.

Inactive Ingredients: maleic acid, 0.10 mg; sodium chloride, 7.0 mg; water for injection, qs to 1 mL.

Chemically, methylergonovine maleate is designated as ergoline-8-carboxamide, 9,10-didehydro-N-[1-(hydroxyethyl)propyl]-1-methyl-[(8S)-, (Z)-2-butenedioate (1:1) (salt)].

Its structural formula is:

\[
\text{Caffeine/Caféine. Mol. wt. = 455.51}
\]

CLINICAL PHARMACOLOGY
Methylergonovine maleate acts directly on the smooth muscle of the uterus and increases the tone, rate, and amplitude of rhythmic contractions. Thus, it induces a rapid and sustained tetanic uterine effect which shortens the third stage of labor and reduces blood loss. The onset of action after I.V. administration is immediate, after I.M. administration, 2-6 minutes, and after oral administration, 5-10 minutes.

Pharmacokinetic studies following an I.V. injection have shown that methylergonovine is rapidly distributed from plasma to peripheral tissues within 2-3 minutes or less. The bioavailability after oral administration was reported to be about 60% with no accumulation after repeated doses. During delivery with intramuscular administration, bioavailability increased to 78%. Ergot alkaloids are mostly eliminated by hepatic metabolism and excretion, and the decrease in bioavailability following oral administration is probably a result of first-pass metabolism in the liver.

Bioavailability studies conducted in fasting healthy female volunteers have shown that oral absorption of a 0.2 mg methylergonovine tablet was fairly rapid with a mean peak plasma concentration of 3243 ± 1308 pg/mL observed at 1.1 ± 0.82 hours. For a 0.2 mg intramuscular injection, a mean peak plasma concentration of 5918 ± 1592 pg/mL was observed at 0.41 ± 0.21 hours. The extent of absorption of the tablet, based upon methylergonovine plasma concentrations, was found to be equivalent to that of the I.M. solution given orally, and the extent of oral absorption of the I.M. solution was proportional to the dose following administration (0.1, 0.2, and 0.4 mg). When given intramuscularly, the extent of absorption of methylergonovine maleate solution was about 25% greater than the tablet.

The volume of distribution (Vd/F) of methylergonovine was calculated to be 56.1 ± 17.0 liters, and the plasma clearance (CLp/F) was calculated to be 14.4 ± 4.5 liters per hour. The plasma level decline was biphasic with a mean elimination half-life of 3.39 hours (range 1.5 to 12.7 hours). A delayed gastrointestinal absorption (Tmax) of about 3 hours) of methylergonovine maleate tablet might be observed in postpartum women during continuous treatment with this oxytocic agent.

INDICATIONS AND USAGE
For routine management after delivery of the placenta; postpartum atony and hemorrhage; subinvolution. Under full obstetric supervision, it may be given in the second stage of labor following delivery of the anterior shoulder.

CONTRAINDICATIONS
Hypertension; toxemia; pregnancy; and hypersensitivity.

WARNINGS
This drug should not be administered I.V. routinely because of the possibility of inducing sudden hypertension and cerebrovascular accidents. If I.V. administration is considered essential as a lifesaving measure, methylergonovine maleate should be given slowly over a period of no less than 60 seconds with careful monitoring of blood pressure. Intra-arterial or periarterial injection should be strictly avoided.

PRECAUTIONS
General
Caution should be exercised in the presence of sepsis, obliterator vascular disease, hepatic or renal involvement. Also use with caution during the second stage of labor. The necessity for manual removal of a retained placenta should occur only rarely with proper technique and adequate allowance of time for its spontaneous separation.

Drug Interactions
CYP 3A4 Inhibitors (e.g. Macrolide Antibiotics and Protease Inhibitors)

There have been rare reports of serious adverse events in connection with the coadministration of certain ergot alkaloid drugs (e.g. dihydroergotamine and ergotamine) and potent CYP 3A4 inhibitors, resulting in vasospasm leading to cerebral ischemia and/or ischemia of the extremities. Although there have been no reports of such interactions with methylergonovine alone, potent CYP 3A4 inhibitors should not be coadministered with methylergonovine. Examples of some of the more potent CYP 3A4 inhibitors include macrolide antibiotics (e.g., erythromycin, troleandomycin, clarithromycin), HIV protease or reverse transcriptase inhibitors (e.g., ritonavir, indinavir, nelfinavir, delavirdine) or azole antifungals (e.g., ketoconazole, itraconazole, voriconazole). Less potent CYP 3A4 inhibitors should be administered with caution. Less potent inhibitors include saquinavir, nefazodone, fluconazole, grapefruit juice, fluoxetine, fluvoxamine, zileuton, and clotrimazole. These lists are not exhaustive, and the prescriber should consider the effects on CYP 3A4 of other agents being considered for concomitant use with methylergonovine.

No pharmacokinetic interactions involving other cytochrome P450 isoenzymes are known. Caution should be exercised when methylergonovine maleate is used concurrently with other vasodilators or ergot alkaloids.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term studies have been performed in animals to evaluate carcinogenic potential. The effect of the drug on mutagenesis or fertility has not been determined.

Pregnancy

Category C. Animal reproductive studies have not been conducted with methylergonovine maleate. It is also not known whether methylergonovine maleate can cause fetal harm or can affect reproductive capacity. Use of methylergonovine maleate is contraindicated during pregnancy because of its uterine effects. (See INDICATIONS AND USAGE.)

Labor and Delivery

The uterine effect of methylergonovine maleate is utilized after delivery to assist involution and decrease hemorrhage, shortening the third stage of labor.

Nursing Mothers

Methylergonovine maleate may be administered orally for a maximum of 1 week postpartum to control uterine bleeding. Recommended dosage is 1 tablet (0.2 mg) 3 or 4 times daily. At this dosage level a small quantity of drug appears in mothers’ milk. Caution should be exercised when methylergonovine maleate is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

Geriatric Use

Clinical studies of methylergonovine maleate did not include sufficient number of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in response between the elderly and younger patients. In general, dosage selection for an elderly patient should be cautious, usually starting at the low end of the dose range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

ADVERSE REACTIONS

The most common adverse reaction is hypertension associated in several cases with seizure and/or headache. Hypotension has also been reported. Nausea and vomiting have occurred occasionally. Rarely, observed reactions have included: acute myocardial infarction, transient chest pains, arterial spasm (coronary and peripheral), bradycardia, tachycardia, dyspnea, hematoma, thromboplastinemia, water intoxication, hallucinations, leg cramps, dizziness, tinnitus, nasal congestion, diarrhea, diaphoresis, palpitation, rash and foul taste.

There have been rare isolated reports of anaphylaxis, without a proven causal relationship to the drug product.

DRUG ABUSE AND DEPENDENCE

Methylergonovine maleate has not been associated with drug abuse or dependence of either a physical or psychological nature.

OVERDOSE

Symptoms of acute overdose may include: nausea, vomiting, abdominal pain, numbness, tingling of the extremities, rise in blood pressure, in severe cases followed by hypotension, respiratory depression, hypothermia, convulsions, and coma.

Because reports of overdosage with methylergonovine maleate are infrequent, the lethal dose in humans has not been established. The oral LD50 (in mg/kg) for the mouse is 187, the rat 93, and the rabbit 4.5. Several cases of accidental methylergonovine maleate injection in newborn infants have been reported, and in such cases 0.2 mg represents an overdose of great magnitude. However, recovery occurred in all but one case following a period of respiratory depression, hypothermia, hyperthermia with jerking movements, and, in one case, a single convolution.

Also several children 1-3 years of age have accidentally ingested up to 10 tablets (2 mg) with no apparent ill effects. A postpartum patient took 4 tablets at one time in error and reported paresthesias. Also several children 1-3 years of age have accidentally ingested up to 10 tablets (2 mg) with no apparent ill effects. A postpartum patient took 4 tablets at one time in error and reported paresthesias and clamminess as her only symptoms.

Treatment of acute overdose is symptomatic and includes the usual procedures of:

1. removal of offending drug by inducing emesis, gastric lavage, catharsis, and supportive diuresis.
2. maintenance of adequate pulmonary ventilation, especially if convulsions or coma develop.
3. correction of hypotension with pressor drugs as needed.
4. control of convulsions with standard anticonvulsant agents.
5. control of peripheral vasospasm with warmth to the extremities if needed.

DOSE AND ADMINISTRATION

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration.

Intramuscularly

1 mL, 0.2 mg, after delivery of the anterior shoulder, after delivery of the placenta, or during the puerperium. May be repeated as required, at intervals of 2-4 hours.

Intravenously

Dosage same as intramuscular. (See WARNINGS)

HOW SUPPLIED

Ampuls

1 mL size

Boxes of 10………………NDC 63704-004-01

Store and Dispense

Ampuls: Store in refrigerator, 2°C-8°C (36°F-48°F). Protect from light. Administer only if solution is clear and colorless.

References

1. Information on Adverse Reactions supplied by Medical Services Dept., Novartis Pharmaceuticals, E. Hanover, N.J., based on computerized clinical reports.

REV: April 2007

Pharmacist Pharmaceutical

Distributed by:
Pharmacist Pharmaceutical, LLC
Salem, Virginia 24153