

PRESCRIBING INFORMATION

Methylene Blue Injection
1% w/v (10 mg/ml)

Sterile solution

British Pharmacopoeia (B.P.)

Methemoglobinemia / Diagnostic Aid

Phebra Pty Ltd
19 Orion Road
Lane Cove West
Australia, 2066

Date of Preparation:
April 30, 2019

Canadian Importer:
ICON Plc
4 Innovation Drive
Dundas, Ontario
L9H 7P3

Submission Control No: 222283

PRESCRIBING INFORMATION

METHYLENE BLUE INJECTION

10 mg/mL

METHEMOGLOBINEMIA

DIAGNOSTIC AID

I.V.

PHARMACOLOGY

Methylene Blue activates a normally dormant reductase enzyme system which reduces the methylene blue to leucomethylene blue, which in turn is able to reduce methemoglobin to hemoglobin. Methylene Blue is absorbed from the gastrointestinal tract. It is believed to be reduced in the tissue to the leuco form which is slowly excreted, mainly in the urine together with some unchanged drug. Methylene Blue imparts a blue colour to urine and faeces. In large doses Methylene Blue can produce methemoglobinemia.

INDICATIONS

Used in the treatment of methemoglobinemia. Also used as a bacteriological stain, as a dye in diagnostic procedures such as fistula detection, and for the delineation of certain body tissues during surgery.

CONTRAINDICATIONS

In patients with severe renal impairment or a known hypersensitivity to the drug.

PRECAUTIONS

Methemoglobin concentration should be closely monitored during treatment as Methylene Blue can produce methemoglobinemia in large doses.

Methylene Blue should be used with caution in the treatment of toxic methemoglobinemia; high doses can cause hemolytic anemia and patients with glucose-6-phosphate dehydrogenase (G6PD) deficiencies are particularly susceptible.

A rapid disappearance of cyanosis in response to Methylene Blue would be expected within one hour but might not occur if the patient has erythrocyte G6PD or NADPH-diaphorase deficiency or if methemoglobinemia is due to the ingestion of compounds such as aniline or dapsone. A second dose has been recommended if cyanosis does not disappear within 1 hour of Methylene Blue administration but results of a study in animals and of a patient with aniline poisoning indicated that an increased dosage of Methylene Blue might be of no additional benefit and could be potentially dangerous in that it could enhance Heinz body formation.

Methylene Blue should not be injected S.C. as it may cause necrotic abscesses. It should not be given by intrathecal injection as neural damage has occurred. Methylene Blue should be used with caution in patients with glucose-6-phosphate dehydrogenase deficiency.

Pregnancy and lactation: Although intra-amniotic injection of Methylene Blue has been used to diagnose premature rupture of fetal membranes or to identify separate amniotic sacs in twin pregnancies, there have been several reports of hemolytic anemia (Heinz body anemia) and hyperbilirubinemia in neonates exposed to Methylene Blue in the amniotic cavity. In most cases, exchange transfusions and/or phototherapy are required to control the jaundice.

WARNING

Recent research has revealed that methylene blue has structural properties similar to Monoamine oxidase inhibitors (MAOI), known precipitants of serotonin toxicity when administered concomitantly with drugs having serotonin reuptake inhibition properties (SRIs). Serotonin toxicity/serotonin syndrome has been reported when methylene blue was administered intravenously at concentrations as low as 1 mg/kg, in patients receiving Selective Serotonin Reuptake Inhibitors (SSRIs) or other drugs with serotonin reuptake inhibition properties (e.g.: duloxetine, venlafaxine and clomipramine). Several of these cases required admission to Intensive Care Unit.

If SRIs are being taken, careful consideration needs to be given to stop them before methylene blue injection use to allow a washout period equivalent to at least 4-5 half-lives.

ADVERSE EFFECTS

After I.V. administration Methylene Blue may cause nausea, vomiting, abdominal and chest pain, headache, dizziness, mental confusion, profuse sweating and hypertension; with very high doses methemoglobinemia and hemolysis may occur. Because Methylene Blue is a dye, preparations of the drug stain skin: stains on skin may be removed by use of a hypochlorite solution.

DOSAGE

For the treatment of drug-induced methemoglobinemia as in nitrite poisoning, Methylene Blue is administered I.V. as a 1% solution in doses of 1 to 2 mg/kg body weight injected over a period of several minutes. A repeat dose may be given after 1 hour if required.

SUPPLIED

Each mL of sterile solution contains: tetramethylthionine chloride (methylene blue) trihydrate B.P. 10 mg in water for injection. Non-medicinal ingredients: sodium hydroxide and hydrochloric acid to adjust pH.

Vials of 5 mL, boxes of 10.

STORAGE

Store at room temperature (15°C to 30°C).

SINGLE USE VIAL

Discard unused portion.

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