

CLASS: A

PROTOCOLS USED IN: Hydrogen Cyanide

PHARMACOLOGY AND ACTIONS:

Hydroxocobalamin (vitamin B12a) is an effective antidote in the treatment of cyanide poisoning based on its ability to bind cyanide ions. Each Hydroxocobalamin molecule can bind one cyanide ion to form cyanocobalamin (vitamin B12), which is then excreted in the urine. Cyanide is an extremely potent toxic poison. In the absence of rapid and adequate treatment exposure to a high dose of cyanide can result in death within minutes due to inhibition of cytochrome oxidase resulting in arrest of cellular respiration.

INDICATIONS:

Cyanide poisoning or smoke inhalation with suspected cyanide poisoning due to the presence of coma, persistent hypotension or cardiorespiratory arrest.

CONTRAINDICATIONS:

None

PRECAUTIONS:

Hydroxocobalamin has physical (particulate) and chemical incompatibilities with many medications and it is best to administer other drugs or products (e.g. blood) through a separate intravenous line.

SIDE EFFECTS AND NOTES:

- A. The most frequently occurring side effects are chromaturia (red colored urine) and erythema (skin redness) which occur in nearly all patients.
- B. Other reported serious side effects include allergic reactions, temporary increases in blood pressure, nausea, headache and infusion site reactions.
- C. Because of its deep red color, Hydroxocobalamin has also been found to interfere with certain laboratory tests based on light absorption including co-oximetric measurements or carboxyhemoglobin, methemoglobin and oxyhemoglobin.

ADULT DOSING:

Cyanide poisoning or smoke inhalation with suspected cyanide poisoning - 5 grams IV or IO over 15 minutes. Vial should be reconstituted with 200 ml of normal saline. Contact OLMC regarding second dose. Monitor for clinical response.

PEDIATRIC DOSING:

Cyanide poisoning or smoke inhalation with suspected cyanide poisoning - 70 mg / kg IV or IO over 15 minutes. Vial should be reconstituted with 200 ml of normal saline. Contact OLMC regarding second dose. Monitor for clinical response.