

Ingestion of Inorganic Salts of Mercury

Examples: Mercuric chloride, mercuric bichloride, mercuric acetate, mercuric bromide, mercuric oxide, mercuric nitrate, mercuric cyanide, mercuric sulfide.

1. Expect nausea and vomiting; however after the patient's stomach is empty, an antiemetic (i.e., Zofran) should be given.
2. Initial oral decontamination with egg whites (at home) or oral albumin (in hospital) may absorb some mercury in the stomach, but should not be administered to anyone who cannot protect their own airway or who is vomiting.
3. Laboratory determinations: Obtain a spot urine in an acid-washed, metal-free container, to be sent for urine mercury level, via the treating facility's own hospital lab, to ARUP Laboratories in Salt Lake City, for mercury level. Also have the patient collect their urine for 24 hours in a sterile lab-supplied, acid-washed metal-free jug for urine mercury determination. In serious ingestions, this should be done by Foley catheter.
4. Obtain a whole blood mercury level if exposure was acute (i.e., it happened same day as presentation to hospital), also to be sent to ARUP.
5. Abdominal x-rays should be done to determine the presence of radio-opaque mercury or assess for GI tract perforation and the presence of free air.

Chelation protocol:

1. **BAL:** It is best to start this promptly (ideally within 4 hours) in any symptomatic patient.
 - A. It must be given by deep IM injection.
 - B. Contraindications: Peanut allergy
 - C. Dose: 5 mg/kg IM Q 4 hours for 48 hours, then 3 mg/kg IM Q 6 hours for the next 48 hours, then 3 mg/kg IM every 12 hours for an additional 7 days, or guided by blood and urine levels.
 - D. Also, IV hydration and alkalization may help prevent renal injury.
 - E. Chemistries to include electrolytes and renal function should be performed daily.
2. **Succimer:** 10 mg/kg PO TID for 5 days, then 10 mg/kg PO BID for 14 days.
 - A. This may need to be delayed until the patient is able to take oral meds, and may be substituted after 4 days for the maintenance dosing of BAL above.
 - B. Many patients may have GI bleeding for which they need to be treated first, and stabilized before oral chelation can be begun.

Hemodialysis:

1. Early hemodialysis in massive acute ingestions may reduce the total body burden of inorganic mercury.
2. Otherwise, renal injury is a common complication of inorganic mercury toxicity and when renal dysfunction is recognized by either rising creatinine or falling urine output, a nephrology consult should be recommended.