Lipid resuscitation therapy (LRT)
Intralipid® / LipidRescue™ Therapy

The decision to use lipid resuscitation therapy should be made in collaboration with the Poison Centre Toxicologist on call.

Indication

- administration of a lipid emulsion with the intent of reducing the clinical manifestations of toxicity from excessive doses of lipid-soluble cardiotoxic medications
- may be considered for patients with hemodynamic, or other instability (e.g., intractable seizures), not responsive to standard resuscitation measures (e.g., fluid replacement, inotropes, and pressors, etc.)

Initial Focus

- Airway management: ventilate with 100% oxygen
- Seizure suppression: benzodiazepines are preferred
- Basic and Advanced Cardiac Life Support (BLS/ACLS): may require prolonged effort

20% Lipid Emulsion Infusion (values in parenthesis are for a 70 kg patient)

- **Bolus 1.5 mL/kg** (lean body mass) intravenously over 1 min (~100 mL)
- **Continuous infusion at 0.25 mL/kg/min** (~18 mL/min)
- Blood pressure, heart rate, and other available hemodynamic parameters should be recorded at least every 15 min during the infusion
- **Repeat bolus once or twice (every 5 min) for persistent cardiovascular collapse** (asystolic patients, or those with pulseless electrical activity)
- If there is an initial response to the bolus followed by the re-emergence of hemodynamic instability, double infusion rate to 0.5 mL/kg per minute; or in severe cases, the bolus could be repeated
- **Continue infusion for at least 10 mins after attaining circulatory stability**
- **Recommended upper limit: approx. 10-12 mL/kg lipid emulsion (total) over the first 30 mins**
- Where possible, lipid resuscitation therapy should be terminated after 1 h, or less, if the patient's clinical status permits. In cases where the patient's stability is dependent on continued lipid infusion, further treatment decisions should be made in collaboration with the Poison Centre Toxicologist on call.

Avoid:

- vasopressin, calcium channel blockers, β-blockers
- high dose epinephrine should be avoided; if epinephrine necessary, use doses < 1 mcg/kg
- propofol in patients with cardiovascular instability

Contraindications: Hypersensitivity to fat emulsion and severe egg or legume (soybean) allergies

Reported possible complications: Laboratory interference, fat overload syndrome, pancreatitis, ARDS

Modified from:
LipidRescue resuscitation for drug toxicity. http://www.lipidrescue.org/, 2012.
American Society of Regional Anesthesia and Pain Medicine. Checklist for Treatment of Local Anesthetic Systemic Toxicity. 2012.
American College of Medical ToxicologyPosition Statement: Interim Guidance for the Use of Lipid Resuscitation Therapy, J Med Toxicol. 7(1): 81–82, 2011.

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