

# INTRAVENOUS LIPID EMULSION THERAPY USE IN THE TOXICOLOGY INVESTIGATORS CONSORTIUM (Toxic)

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Stellpflug SJ<sup>11</sup>, Brent J<sup>12</sup>, Wax P<sup>13</sup> for the Management with Intravenous Lipid in Overdose (MILO) investigators from Toxic

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## Background

- ◇ The use of intravenous lipid emulsion (ILE) therapy for treatment of lipophilic drug toxicities has increased in recent years.
- ◇ In May 2012, the ILE sub-registry was created as part of the Toxicology Investigators Consortium (Toxic) registry.
- ◇ The purpose of this sub-registry is to collect detailed information regarding the use of ILE by toxicologists.

## Objectives

- ◇ An interim analysis describing the patient characteristics for which ILE is being administered.

## Methods

- ◇ Retrospective review of prospectively-collected data of patients receiving ILE between 1 May 2012 through 30 October 2013.
- ◇ No statistical analysis was performed as part of this interim analysis.
- ◇ The following definitions were created *a priori*:
  - Bradycardia = HR < 50 beats per minute
  - Hypotension = SBP < 90 mmHg
  - Acute kidney injury = creatinine > 2 mg/dL
  - Metabolic acidosis = pH < 7.2

## Results

- ◇ 44 patients received ILE; sub-registry was completed on 34 of these patient from 17 institutions.
- ◇ 38% (13/34) were male. The median (IQR) age was 48 (35-56) years, with the youngest being 13 months.
- ◇ Bradycardia was observed in 11/34 (32%) while hypotension was observed in 29/34 (85%).
- ◇ Three (9%) experienced high degree atrioventricular block prior to ILE administration.
- ◇ Six (18%) patients had experienced cardiac arrest prior to implementation of ILE; 10/34 (29%) of all subjects died.
- ◇ Acute kidney injury was observed in 7/34 (21%) and metabolic acidosis was present in 14/34 (42%).

**Table 1**

Drug	Number of times
Non-dihydropyridine CCB alone	9
Dihydropyridine CCB alone	5
Combination of BB with CCB	4
BB alone	5
Local anesthetic	3
Miscellaneous	8

CCB = Calcium channel Blocker. BB = Beta blocker

## Discussion

- ◇ In recent years, the use of ILE has become more accepted, and its use has been advocated by some individuals for treatment of non-life threatening toxicity.
- ◇ The purpose of this interim analysis was to describe the clinical characteristics of patients who receive ILE by a toxicologist.
- ◇ While an observational registry cannot determine efficacy, this registry should help to better elucidate the characteristics of those patients receiving ILE, and possibly examine the prevalence of complications following ILE administration.

## Conclusions

- ◇ In this series of patients who received ILE, the majority involved non-local anesthetics.
- ◇ Most patients were in shock with evidence of abnormal tissue perfusion at the time ILE was administered.