

Or-197

Pre-Hospital/EMS 3, Transportation, and Toxicology

INTRAVENOUS LIPID EMULSION FOR TREATMENT OF TRICYCLIC ANTIDEPRESSANT TOXICITY A RANDOMIZED CONTROLLED TRIAL

Mohammad Hosseini kasnavieh(1), Soudabeh Jalali Nodoushan (2),

Niloofar Abazarian (3), Hamed Basir Ghafouri(4), Behnam Movahedi (5), Omid Yahyaza (6), Amir Molaeifar (7)

1. *Tehran University of Medical science, Tehran Iran*

2. *Tehran University of Medical science, Tehran Iran*

3. *Tehran University of Medical science, Tehran Iran*

4. *Tehran University of Medical science, Tehran Iran*

5. *Tehran University of Medical science, Tehran Iran*

6. *Psychiatry, kish hospital, kish, Iran,*

7. *Tehran University of Medical science, Tehran Iran*

Corresponding author: mhoseini1346@gmail.com

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Introduction: Tricyclic antidepressants are one the major causes of drug toxicity, and they can cause severe damage to cardiovascular and neurologic system. There has been some evidence which shows that intravenous lipid emulsions can effectively reverse TCA toxicity. This evidence is limited to some experimental animal studies and some case reports, so this study is the first randomized controlled trial on this issue.

Methods: from February 2012 to July 2012 all patients with severe TCA toxicity who were eligible according to our exclusion and inclusion criteria and attended Loghman

Hospital (a referral toxicology center) were randomly divided to intervention and control groups. The control group received the standard treatment with bicarbonate And the intervention group received standard treatment Plus intravenous lipid emulsion. The outcomes which were compared in the two groups were time that EKG becomes normal, the time that systolic BP got over 90 in hypotensive patients, number of hospitalization days, mortality and disabilities at the end of hospitalization.

Results: 108 patients entered the study and divided to 54 Interventions and 54 controls. Only one of the patients died during the time of follow up; he belonged to control group and died because of ventricular dysrhythmia at the 5Th day of hospitalization. No statistically significant difference was observed at the two groups for time needed for EKG changes reversing however the evaluated time was 20 minutes shorter in intervention group. As well no statistically significant difference has been observed Between the two groups for BP at the time of EKG reversal and days of hospitalization. No adverse reaction occurred to intralipid treatment which led to death or discontinuation of treatment. **Discussion:** since this study is the first one of its kind we cannot have a head to toe comparison with the previous studies. However animal experimental studies and case reports, which were all conducted in patients who did not respond to standard treatment, showed benefits for intralipid therapy, we did not observed any significant change in outcomes of TCA toxicity in patients who received intralipid as a part of initial treatment.