

99. Characterization of Single Substance Baclofen Exposure in the Toxicology Investigators Consortium Registry

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Background: Baclofen is a GABA_B agonist used for skeletal muscle spasticity. In overdose, baclofen may cause both inhibitory and excitatory neurotoxicity as characterized in case reports and series. These reports are limited by sample size and co-ingestants. This study aims to characterize clinical effects of isolated oral baclofen overdose using the Toxicology Investigators Consortium (Toxic) registry.

Methods: Retrospective analysis of prospectively collected data from the Toxic registry from 1/1/2010 – 4/3/2015 limited to single substance oral baclofen exposure. Cases related to withdrawal or deemed “unlikely tox related” were excluded from the analysis. Descriptive statistics characterized overdose effects and therapies administered.

Results: 42 single substance oral baclofen overdose cases were reported. Mean age was 44 years (range 4–86 years). 45% were male. Exposures included 23 acute, 16 acute on chronic, and two chronic cases. 12 cases were self-harm attempts, and seven cases were misuse/abuse. Acute exposure doses ranged from 20–300 mg. 39 (93%) were symptomatic with most common symptoms including coma/central nervous system (CNS) depression, sedative-hypnotic toxidrome, agitation, and respiratory depression (see Table). Hyperreflexia/myoclonus/clonus/tremor and seizures occurred in five and three cases, respectively. 13 (31%) patients were intubated for ventilatory management. 20 (48%) patients were admitted to the intensive care unit (ICU).

Table. Frequency of clinical effects single substance oral baclofen overdose.

Clinical Effects	Count (%)
Coma/CNS depression	24 (57)
Sedative-Hypnotic Toxidrome	12 (29)
Agitation	7 (17)
Respiratory Depression	6 (14)
Bradycardia (P < 50)	5 (12)
Hyperreflexia/Myoclonus/Clonus/Tremor	5 (12)
Delirium/Toxic Psychosis	4 (10)
Seizures	3 (7)
Hypertension (SBP > 200 and/or DBP > 120)	2 (5)

Conclusions: Prospectively collected by medical toxicologists validates previous reports and rates of CNS/respiratory depression, agitation/delirium, neuromuscular hyperactivity, and seizures. Although this study is to-date the largest single substance exposures analysis of baclofen overdose, no concentrations of baclofen at time of exposure were reported. Overall, despite the severity of clinical effects and high proportion of ICU admissions, oral baclofen overdose can be safely managed with aggressive supportive care with no mortality reported in this series.