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290. Respiratory depression and ventilatory support in synthetic cannabinoid exposures: Report from the ToxIC Registry

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Objective: Synthetic cannabinoid (SC) exposures often present to the Emergency Department (ED) with clinical effects which differ significantly from marijuana. These include seizures, psychosis and myocardial ischemia. In our experience we have seen cases of patients with CNS and respiratory depression requiring ventilator support after isolated SC exposure. We sought to examine the prevalence of this phenomenon in patients with SC exposure reported to the ToxIC registry.

Methods: All cases entered into ToxIC from 2011 to October 2014 which were selected as "Bath Salt, Synthetic Cannabinoid, other Designer Drug, or Agent referred to by a Street Name" were reviewed to identify SC exposures only. Other "designer drugs" were excluded unless co-exposures with SC; unknown exposures were excluded. Data was reviewed to evaluate the number of cases with "respiratory depression" as clinical effect and "Intubated/ventilator support" as treatment.

Results: In total there were 108 cases, average age 27.1 years (SD 11.6, range 14-59), 86% male. Of these, 6 patients (5%) had respiratory depression, and 10 (9%) underwent intubation and ventilatory support. However, 8/10 of these had delirium, toxic psychosis or seizure reported as a clinical effect; only 2 had respiratory/CNS depression listed as the sole clinical effect which might require intubation.

Conclusion: Respiratory depression requiring intubation was uncommon in this cohort with isolated SC exposures. However, these data suggest that this effect, while not typical of traditional marijuana, can be seen after SC use. Presumably due to the long turnaround time and limited availability of testing for these compounds, the cases in this database are not confirmed SC exposures. However, the ToxIC registry includes only cases seen by a medical toxicologist, which should increase accuracy of reporting to a considerable extent. In this cohort, respiratory depression was an uncommon but reported effect after synthetic cannabinoid exposure. Intubation with ventilator support was also performed in several patients, although the majority of these were not for respiratory depression. Clinicians evaluating these patients should be aware of this possibility.