

### **Mortality Associated with Abuse of novel opioid, U47700**

Andrew Farkas, Joshua Shulman, Michael Lynch

*University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, USA*

Background: U47700 is a synthetic opioid with approximately 7.5 times the potency of morphine in animal models. It is also an emerging drug of abuse which, as of November 2016, has been placed into Schedule 1 of the Controlled Substances Act by the DEA.

Hypothesis: U47700 is an emerging drug of abuse which produces an opioid toxidrome. Like other opioids, its use can cause fatal respiratory depression

Methods: This is a retrospective review of a case in which a patient presented with multiple separate instances of sedative-hypnotic toxicity. Hospital records were reviewed.

Results: A 30 year-old male with a history of substance use disorder, depression and prior suicide attempts presented with somnolence, hypoxemia and findings consistent with aspiration after a suspected polysubstance overdose. He was taken to a community hospital and required intubation for airway protection as well as norepinephrine for hypotension. He was transferred to a tertiary care center. Urine gas chromatography/mass spectrometry (GC/MS) demonstrated U47700, dextromethorphan, hydroxyzine, quetiapine, diphenhydramine, and paroxetine. The patient recovered and was extubated. He admitted to buying U47700 over the internet, and ingesting it prior to hospitalization. His family member produced the substance, which consisted of dropper bottles marked "U47700 for research purposes only 20mg per mL". They contained 5mL of a clear, sticky fluid. The patient was transferred to inpatient psychiatry after a 5 day hospitalization, and was discharged home 8 days after that. Two weeks later, the patient was found dead of a suspected U47700 overdose according to a DEA report, though final medical examiner determination is pending.

Discussion: We present a case of a patient who is suspected to have died as a result of U47700 overdose. The substance was detectable on urine GC/MS. The patient reportedly obtained the substance via an internet website.

Conclusion: U47700 is a novel opioid with greater potency than morphine and is available for home delivery from internet sources. It can be identified in biological specimens via urine GC/MS. Deaths from U47700 toxicity have been reported.