

Tramadol intoxication /abuse: a new issue on high-access population.

Hassanian-Moghaddam H (1), Kolahi AA (2). Shaheed Beheshti Medical University, Tehran-IRAN

(1) *Department of Clinical Toxicology & Forensic Medicine, Loghman-Hakim Poison Hospital*

(2) *Department of Community Medicine, Medical School*

Objective: Nearly, all medical fields are dealing with analgesics. Tramadol is a new analgesic agent with a dual mechanism of action that includes weak agonistic effects at the Mu-opioid receptor as well as inhibition of neurotransmitter (serotonin, norepinephrine) re-uptake (1). Although it has proven to be a safe and effective agent for the control of pain, adverse effects can occur with its use and particularly abuse and intoxication (2). In Iran, this drug is easily available for patients without prescription. According to annual reports of Iranian ministry of health 24 million Tramadol tablets (100 mg) were sold from 21 March 2004 through 20 March 2005. It was increased to 162 million in the next year and 350 million in 2006-2007, demonstrate 14.6-fold increase during 2 years (3). The aim of this study was to assess the frequency of Tramadol exposure and patient characteristics in the capital city. **Methods:** The Loghman-Hakim Poison Hospital (LPH) is the only Teaching Hospital for poisoned patients in the capital city, which covers more than 12.5 million populations. All hospitalized file of Tramadol intoxication/abuse/complication cases from 21 March 2006 to 20 March 2007 in the LPH (2396 cases) were screened retrospectively. Data of 100 cases were selected and analyzed in a systematic randomized manner to have a uniform coverage of the entire sampling area. It was analyzed using SPSS 15 software. Categorical variables were evaluated using Chi square. A p value < 0.05 was considered statistically significant. **Results:** The Tramadol exposure was found in more than 15% of all adult hospitalized intoxicated patients in the study period. Mean age was 23.5±8 years and 88% were less than 30. Seventy one percent were male, 99% have used Tramadol orally and 91% deliberately, while 7% had used Tramadol to cease opioid addiction according to their own/friends' recommendation and 2% was the complication of verified prescription. The main complications were: 37% GI problems particularly nausea and vomiting, 34% drowsiness and 29% seizure. Six percent of all patients had history of convulsion and 26% attempted suicide before. Seventeen percent and 30% of patients who had evidence for seizures had a history of convulsion and a history of Tramadol abuse respectively. History of Tramadol abuse was claimed in 36% while 24% were substance dependent. Psychiatric illness was detected by psychiatrists in 58%. Of whom depressive disorder in 78%, substance abuse in 11%, personality disorder in 10% and anxiety disorder in 1% were the main diagnosis. History of previous psychiatric illness was observed in 56%. Ingested dose of Tramadol was not clear in most cases. There was significant correlation between deliberate self poisoning and history of substance abuse, past psychiatric illness, present psychiatric illness and Tramadol abuse (P<0.001). Also there was significant correlation between history of Tramadol/substance abuse and history of psychiatric illness (P<0.001). **Conclusion:** It seems that abuse liability of Tramadol is more than what previously were thought. Its availability and lack of being scheduled could make it more attractive as a drug of abuse. Although GI complication are more prominent but the first time convulsion particularly in adults should remind Tramadol exposure as an important

differential diagnosis. **References:** (1)Raffa RB, Friderichs E, Reiman W, et al. Opioid and nonopioid components independently contribute to the mechanism of action of Tramadol, an 'atypical' opioid analgesic. *J Pharmacol Exp Ther* 1992; **260**: 275–285. (2) Jovanovic-Cupic V, Martinovic Ž, Nešić N. Seizures Associated with Intoxication and Abuse of Tramadol. *Clin Toxicol*2006; **44**:143–146. (3) Report of Tramadol consumption by officials [Persian Language]. <http://www.magiran.com/npview.asp?ID=1450199>. Retrieved October 3, 2007