



Original Article

Tramadol Poisoning and Prevalence of Common Side Effect

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Introduction: Seizures is one of importance side effect of Tramadol Poisoning and need to rapid treatment after poisoning. It's necessary to know the prevalence and epidemiology of seizures in patients that poisoned by Tramadol. So we design this study to evaluated prevalence of seizure in tramadol poisoned patients. **Material and Method:** In this epidemiologic study, we collection data from 42 profile of patient that refer to Ahvaz Razi hospital due to Tramadol poisoning in several last years with sign of seizure. In Accordingly a checklist included patients' demographic data (age, gender and ...), information on patients', information on poisoning and information on treatment and therapy programs that is filled based on the records. Data analysis was done by SPSS Version 22 software. **Result:** In this study we evaluated 41 patients with seizure due to Tramadol poisoning. Results shows that average age of 37 patients was between 15-30 years, average age of 3 patients was between 31-45 years and average age of 1patients was between 46-60 years (table 1). Also 33 Patients (80.5%) was male and 8 of them (19.5%) was female. We also founded that 19 patients (46.3%) was addicted and 1 patient was expired so rate of mortality was (2.4%). **Conclusion:** This data show that seizure due to Tramadol poisoning was common in male more than female and people with age between 15-30 years was high risk to suffer from this side effect after over dose of Tramadol. We suggested that other research design new research with more patients and other variable to evaluated Tramadol poisoning and correlation of seizure with other factors.

Keywords: Tramadol Poisoning, Seizure, Addiction.

1. INTRODUCTION

One the worldwide problem in medical and clinical sciences is side effect of drug or any agent that become toxicity. This toxicity or poisoning can be effect of routine or daily drug that used by patients or effect of chemotherapy in cancer patients or even effects from chemical warfare agents. All of this poisoning says that we must focus on this important field of medical sciences and design projects to more know

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about sign and manifestations of any toxic agent ¹⁻³. Poisoning as one of the major causes of death in most countries is very important in terms of public health the most common combined toxicity is drug toxicity. Toxic factor is different in various parts of Iran. In Tehran, Mashhad and Babol drug toxicity is common with sedatives and Tramadol is the most consuming narcotic drug that is prescribed in the world ⁴. Tramadol is a centrally acting analgesic used for the treatment of moderate to severe pain. It has been approved for use in some countries since 1980 and become the most prescribed opioid worldwide ⁵. Tramadol is available in many countries throughout the world and has been used with good effect for step 2 of the analgesic ladder. Its use is facilitated by the weaker analgesic potency compared with morphine, as this means that it is not scheduled under the narcotic legislation in most countries. Scheduled drugs are not available or not accessible in many countries, and consequently nonscheduled drugs such as tramadol are used as an alternative ⁶. Usual therapeutic dose is 50 mg orally, 50– 100 mg by injection, and 100 mg rectally. Total daily dose usually does not exceed 400 mg ⁷. In recent years, tramadol poisoning has become one of the most common causes of admissions to emergency departments in Iran. Important complications of tramadol poisoning include seizures as well as depression of the central nervous system (CNS) and respiratory system. It has been reported that 15% to 35% of hospital referred patients with tramadol poisoning experience seizures .The lowest dose associated with seizures was 200 mg in one study and 300 mg in another ⁸⁻⁹. Seizures are a serious complication associated with medication or drug use. Seizures have been associated with hyperthermia, acidosis, anoxic brain injury, and an 8-fold increased risk of aspiration pneumonitis. It is estimated that 6.1% of new onset seizures are drug related ¹⁰. Reports indicate that seizure occurs in patients receiving tramadol within the recommended dose range, but it is more common when patients exceed the recommended dose. Consumption of selective serotonin reuptake inhibitors (SSRI), tricyclic antidepressants, monoamine oxidase (MAO) inhibitors, or other drugs that reduce seizure threshold might worsen the neurotoxic symptoms of tramadol. Epilepsy, alcohol ingestion, head trauma, and CNS infections have been considered as predisposing factors for tramadol-induced seizure ¹¹. Seizures is one of importance side effect of Tramadol Poisoning and need to rapid treatment after poisoning. It's necessary to know the prevalence and epidemiology of seizures in patients that poisoned by Tramadol. So we design this study to evaluated prevalence of seizure in tramadol poisoned patients.

2. MATERIAL AND METHODS

In this epidemiologic study, after obtaining approval from Ahvaz Jundishapur University of Medical Sciences Ethical committee, we collection data from profile of patient that refer to Ahvaz Razi hospital due to Tramadol poisoning in

several last years. In Accordingly a checklist included patients' demographic data (age, gender and ...), information on patients', information on poisoning and information on treatment and therapy programs that is filled based on the records. In case of incompleteness of some records of the patients, connections were made with the patients and if it was not possible for any reason or the patient did not have any detailed information about the intended cases, that file was excluded from the study. All data of the deceased and survived patients were compared. It should be noted that in order to maintain confidentiality of patients, the file code is used rather than their names. In order to analyze the data using descriptive statistics including frequency tables, diagrams and numeric indices the variables will be described. Data analysis was done by SPSS Version 22 software.

3. RESULTS

In this study we evaluated 41 patient with seizure due to Tramadol poisoning. Results shows that average age of 37 patients was between 15-30 years, average age of 3 patients was between 31-45 years and average age of 1 patients was between 46-60 years (table 1). Also 33 Patients (80.5%) was male and 8 of them (19.5%) was female. We also founded that 19 patients (46.3%) was addicted and 1 patient was expired so rate of mortality was (2.4%). all of this details was shown on table 1 and figure 1 and 2.

Table 1: Patients Characterization and Outcome

Variable	Sub	Frequency (n=41)	Percent (%)
Age	15-30	37	90.2
	31-45	3	7.3
	46-60	1	2.4
Sex	man	33	80.5
	women	8	19.5
Mortality	yes	1	2.4
Addiction	YES	19	46.3

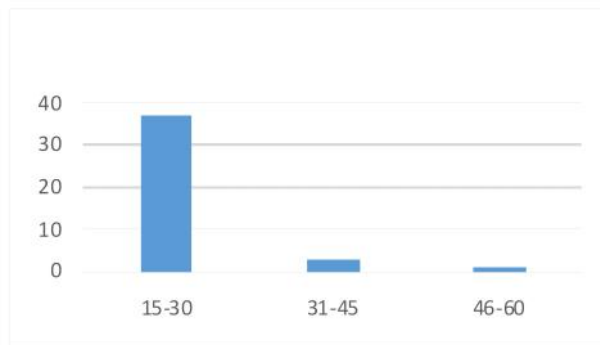


Fig 1: Age Status in Tramadol Poisoned Patient with Seizure sign



Fig 2: Gender Status in Tramadol Poisoned Patient with Seizure sign

4. DISCUSSION AND CONCLUSION

Tramadol is made based on molecular structure of Narceine which is one of opium alkaloids and it is a synthetic analgesic with central effects. This drug is a sedative that had an effect like narcotics. Most cases of its poisoning are deliberately with high dose. Its lethal seizure is one of the dangerous side effects of tramadol as well as some of its drug interactions, training for general practitioners and restrictions on the distribution and consumption has been recommended⁴. Tramadol is metabolized to its active metabolite, odesmethyltramadol, plus multiple non-active metabolites. O-Desmethyltramadol has a different affinity for the receptors and biogenic amine reuptake and may affect seizure threshold. tramadol-induced seizure is dose dependent. Gender and age of patients play no role in prevalence of seizures. Tramadol, similar to other opioids with unique structures such as dextropropoxyphene, which has shown to be much more fatal in overdose, should be prescribed more cautiously particularly in opioid abusers and cases prone to intentional overdose and seizure¹²⁻¹⁴. Our result show that rate of seizure in male was more than female (80.5% Vs 19.5%) and common age was between 15 to 30 years. Also we saw that 46.5% of patients was addicted and rate of mortality was 2.4%. Review of literature can help us to compare our result with other research and get better background about this patient and seizure. For example Taghaddosinejad et al⁹ with publish article entitled Factors Related to Seizure in Tramadol Poisoning and Its Blood Concentration showed that in 401 patients with a history of tramadol overdose; 121 (30.2%) with a history of seizure and 14 (3.5%) with a history of unconsciousness were included. Most of overdoses involved men (83%). The mean age was 22.9 years (range, 14–50 years) and like our article seizure was more common in male and age of 14-50. In other study by goodarzi et al entitled. A study to evaluate factors associated with seizure in tramadol poisoning in Iran presented that 54 cases of tramadol intoxication with seizure admitted to their hospital during the study period. Mean age (SD) was 26.48 (7.74) (range, 17–45).The majority of cases

were in the age group of 15–30 years (N=42, 77.8%). That was near current article. This data show that seizure due to Tramadol poisoning was common in male more than female and people with age between 15-30 years was high risk to suffer from this side effect after over dose of Tramadol. We suggested that other research design new research with more patients and other variable to evaluated tramadol poisoning and correlation of seizure with other factors.

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