

Evaluation of Intoxicated Patients Applying to the Umraniye Training and Research Hospital Emergency Department

Osman CAVUS¹, Emin PALA¹, Suleyman ERSOY¹

¹ Department of Family Medicine, University of Health Sciences Turkey Hamidiye Medical Faculty, Istanbul, TURKEY

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ABSTRACT

Aim: In our study, we aimed to evaluate intoxication cases who were admitted to the Umraniye Training and Research Hospital.

Methods: Medical records of 277 cases with intoxication who applied to the Umraniye Training and Research Hospital between January 01st 2015 and March 31st 2015 were retrospectively analyzed in terms of demographic characteristics, origin, treatment and outcome.

Results: 127 (45.8%) of the 277 cases were female and 150 (54.2%) were male. 62.8% were in the 18-29 age range and 25.3% were in the 30-39 age range. Intoxication most frequently occurred on weekends. The patients were most frequently admitted to the hospital at night. When the forms of poisoning were evaluated, 121 (43.7%) were due to medical drugs, 89 (32.1%) synthetic cannabinoids and 54 (19.5%) CO. Analgesics and tricyclic antidepressants were the most commonly used drugs in acute intoxications. The consultation rate of the suicidal cases with a psychiatrist was 24.9%.

Conclusions: Analgesics and tricyclic antidepressants were the most used drugs in acute intoxications. Synthetic cannabinoids constituted an important proportion of the intoxication cases. Despite these results, consultation of the cases with suicidal attempts with a psychiatrist was reported at a very low percentage. Consultation with a psychiatrist of all patients who attempt suicide should be encouraged.

Keywords: Consultation liaisons, Emergency, Intoxication, Suicide, Synthetic cannabinoids

Corresponding Author: Osman CAVUS osman.cavus@saglik.gov.tr

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Introduction

Plant-based, animal-based or inorganic substances that harm human health are called toxins and their damage to the organism is called intoxication (1). With advances in technology, the variety of chemical substances is increasing. Therefore, the frequency of poisoning caused by these substances is increasing, especially in developed countries. In the United States of America, 4-5 million intoxication cases are seen annually and approximately 1200 of them result in death (2).

Reliable statistical data related to patients admitted to the emergency department with a diagnosis of intoxication cannot be retrieved across Turkey in general. In this study, we aimed to evaluate patients who were admitted to the emergency service of Umraniye Training and Research Hospital with a diagnosis of intoxication in the first three months of 2015.

Methods

Medical records of 277 cases with intoxication who were admitted to the Umraniye Training and Research Hospital between January 01st 2015 and March 31st 2015 were retrospectively analyzed in terms of demographic characteristics, origin, treatment and outcome.

The demographic characteristics of the patients, information on the origin of intoxication, diagnosis,

treatment and outcome were obtained from the records in the hospital information system.

The sections for which consultation was requested and the consultation results were recorded, and these results were reviewed. The application days and application hours of the cases were recorded. Case distributions according to months were examined.

SPSS Statistics 22 program was used to evaluate the statistical analysis of the findings obtained in the study. Categorical variables are expressed as n (%).

Results

This study was conducted with a total of 277 cases, 150 (54.2%) male and 127 (45.8%) female, who applied to the Emergency Service of Umraniye Training and Research Hospital between January 01st, 2015 and March 31st, 2015. 174 of the cases were 18-29 years old (62.8%), 70 were 30-39 years old (25.3%), 23 were 40-49 years old (8.3%) and 10 were over 50 years old (3.6%) (Table 1).

122 (44%) of the patients were admitted to the hospital in January, 133 (48%) in February and 22 (8%) in March. As to the admission days, 31 patients (11.2%) were admitted on Monday, 40 (14.4%) on Tuesday, 39 (14.1%) on Wednesday, 29 (10.5%) on Thursday, 47 (17%) on Friday, 46 (16.6%) on Saturday and 45 (16.2%) on Sunday. When the application hours of intoxication cases to the emergency service are examined, it is observed that the incidence peaked at night.

Table 1. Patient characteristics

		n	%
	18-29	174	62.8
Age (years)	30-39	70	25.3
	40-49	23	8.3
	>50	10	3.6

Sex	Male	150	54.2
	Female	127	45.8
Month of application	January	122	44
	February	133	48
	March	22	8
	Monday	31	11.2
Day of application	Tuesday	40	14.4
	Wednesday	39	14.1
	Thursday	29	10.5
	Friday	47	17
	Saturday	46	16.6
	Sunday	45	16.2
	Hour of application min-max Mean±SD		1-24

The distribution of information on the origin and forms of intoxication is shown in Table 2. It is observed that 53 (19.1%) of the cases were accidental, 126 (45.5%)

were suicidal and 98 (35.4%) were criminal intoxication. 218 patients (78.7%) were intoxicated orally and 59 patients (21.3%) were intoxicated by inhalation.

Table 2. Distribution of information about the origin and forms of intoxication

		n	%
Origin	Accident	53	19.1
	Suicide	126	45.5
	Criminal intoxication	98	35.4
Route of intoxication	Oral	218	78.7
	Inhalation	59	21.3
Form of intoxication	Drug	121	43.7
	CO	54	19.5
	Ethyl / methyl alcohol	4	1.4
	Insecticides	2	0.7
	Synthetic cannabinoids	89	32.1
	Marijuana	1	0.4
	Heroin	1	0.4
	Other groups	2	0.7
	Ecstasy	3	1.1
	Analgesics	13	11
Antibiotics	4	3	
Antidepressants	19	15	
Antiepileptic drugs	5	4	

Type of drug	Vitamins	2	2
	Unknown	9	7
	Other	4	3
	More than one type	63	52
	Proton-pump inhibitors	2	2
	Mucolytic drugs	1	1
Multiple drugs	Yes	120	43.3
	No	157	56.7

When the drug types were examined in drug intoxication cases, 13 (11%) were analgesics, 4 (3%) antibiotics, 19 (15%) antidepressants, 5 (4%) antiepileptic drugs, 2 (2%) vitamins, 2 (2%) proton pump inhibitors, 1 (1%) mucolytic drug and 4 (3%) others, while 9 (7%) were unknown drugs. 120 (43.3%) of the cases used multiple drugs.

The distribution of diagnoses and management is shown in Table 3. In 199 (71.8%) of the cases with emergency monitoring, there was 1 (0.4%) with gastric lavage, 18 (6.5%) with gastric lavage and activated carbon, 3 (1.1%) with intensive care unit supervision and 56 (20.2%) with activated carbon treatment.

Table 3. Distribution of the diagnosis and management

		n	%
	Emergency monitoring	199	71.8
	Gastric lavage	1	0.4
Type of management	Gastric lavage and activated carbon	18	6.5
	Intensive care unit monitoring	3	1.1
	Activated carbon	56	20.2
Life-threatening	Yes	252	91
	No	25	9.0
	Discharged from emergency unit	165	59.6
Outcome of the patients	Referral to another institution	25	9.0
	Leaving the hospital without permission –refusal of management	87	31.4
	No consultation	196	70.8
	Psychiatry	69	24.9
	Internal medicine	1	0.4
Consultations	Cardiology	1	0.4
	Anesthesia	6	2.2
	Gynecology & Obstetrics	3	1.1
	Neurology	1	0.4
	No diagnosis	67	97.1
Diagnosis after psychiatric consultation	Major Depression	1	1.4
	Anxiety disorder	1	1.4

While 25 (9%) of the patients were in a life-threatening condition, 252 (91%) were not. When the outcomes of the patients were examined, 165 (59.6%) were discharged from the emergency unit, 25 (9%) were referred to another institution, and 87 (31.4%) left the hospital without permission or signed a treatment refusal form.

Of the patients, 69 (24.9%) had psychiatry consultation, 1 (0.4%) internal medicine, 1 (0.4%) cardiology, 6 (2.2%) anesthesia, 3 (1.1%) gynecology and 1 (0.4%) neurology consultation; however, 196 of them were not consulted to any discipline.

67 (97.1%) of the 69 persons who had psychiatric consultation did not receive any psychiatric diagnosis. Only one patient (1.4%) was diagnosed with major depression and one (1.4%) was diagnosed with anxiety disorder.

Discussion

In our study we examined cases of intoxication of patients who applied to the Istanbul Umraniye Training and Research Hospital Emergency Service and who were subsequently managed and followed up. The male-to-female ratio was 0.84 in a total of 277 cases diagnosed with intoxication. In the study of Kaya et al., the female-to-male ratio was 1.7 (3). The mean age of our female patients was 29.20 ± 9.33 years and the mean age of the males was 28.05 ± 9.79 years. In the study of Kaya et al., the mean age of females was 20 years and that of males was 29 years. Most of the intoxications in the 18-29 age group were caused by suicide attempts, and their rate among the total cases was 45.4%. In a study by Akin et al., the rate of intoxication in the 5-25 year age group was 72.1% (4). 45.5% of intoxication cases were suicidal, 35.4% criminal and 19.1% accidental. 120 (95.2%) of the suicide cases were due to drugs. In the study conducted by Arslan et al., drugs were used in 95.06%

of suicidal poisonings (5). In the study conducted by Yesil et al., this rate was found to be 49% (6). In our study, 52% of drug intoxications were caused by taking more than one type of drug, 15% with antidepressants and 11% with analgesics. Fluoxetine hydrochloride was the most commonly used antidepressant. In the study conducted by Yilmaz et al., tricyclic antidepressants were the most common drugs with a rate of 34%. It was found that analgesics, antibiotics and other drugs had a significant rate of 52% of intoxications, the rate of antihypertensives, anti-diabetics and neuroleptic drug use was 14% (7). In the study of Ozkose et al., 75.9% of the intoxication cases who applied to the emergency department within one year were due to drugs and analgesics with the highest rate of 29.7% (8).

Synthetic cannabinoids constituted an important proportion of the intoxication cases (32.1%). We think that the rate we found in our study was a high value that should be seriously taken into account. The high frequency of synthetic cannabinoid intoxication may be due to the increased number of users [a,b,c]. Abouchedid et al. found that synthetic cannabinoid receptor agonists were found in 10% of a cohort with acute recreational drug toxicity (a). Most of the other studies are in the form of case reports or case series. As a result of the use of synthetic cannabinoids, many clinical conditions such as atrial fibrillation, pulmonary embolism or psychosis and even death can be encountered.

When the consultations demanded for intoxication cases are analyzed, psychiatry consultation was asked for in 24.9% of the cases, internal medicine in 0.4%, cardiology in 0.4%, anesthesia in 2.2%, gynecology and obstetrics in 1.1% and neurology in 0.4% of cases. There was no demand for consultation in 70.8% of the cases. Of the cases for whom psychiatric consultation was demanded, 1.4% were diagnosed

with major depression and 1.4% with anxiety disorder. In the study conducted by Keles et al., there was no demand for consultation in 38.6% of the patients, and the consultation demand rate was 25.6%, 9.6%, 5.8% and 20.5%, respectively, for anesthesia, psychiatry, pediatric surgery, psychiatry and anesthesia (9).

In our study, only 9% of intoxication cases were life-threatening. In the study of Demirel et al., a life-threatening condition was found in 16.4% of the patients (10). 71.8% of the cases were monitored in the emergency unit. Activated carbon was used in 20.2%, gastric lavage in 0.4%, gastric lavage and activated carbon in 6.5% of the cases; 1.1% of them were admitted to the intensive care unit. In the study conducted by Dal et al., it was reported that gastric lavage and activated carbon was used in 38.3% the patients, in 23.7% only activated carbon, in 18.3% supportive treatment and in 6.2% an antidote was used. 17.8% of the patients were not treated with any form of treatment with 14.1% of them were monitored in the emergency unit (10). In the study conducted by Bolukbasi, it was observed that the use of antidote in intoxications was 14.9% in Aydin and 23.6% in Denizli, while gastric lavage was performed in 51.07% of the cases (11).

59.6% of our patients were discharged from the emergency unit, 31.4% left the hospital with refusal of treatment, and 9% were referred to another institution. In the study conducted by Deniz et al., 36.6% of the patients were discharged from the emergency unit, 57.4% received inpatient treatment and 2.8% were referred to another hospital (12). In the study conducted by Dal et al., 43.9% of the cases were discharged from the emergency unit, 17.7% were hospitalized in inpatient wards, 18.6% were admitted to the intensive care units, 1.7% were referred to other health institutions and 17.9% left the emergency unit without permission (13).

In conclusion, analgesics and tricyclic antidepressants are the most commonly used drugs in acute intoxications. Synthetic cannabinoids constituted an important proportion of the intoxication cases. Despite these results, consultation for suicidal attempts with a psychiatrist was reported at a very low percentage. Consultation with a psychiatrist of all patients who attempt suicide should be encouraged.

Conflict of interest

The authors declare that there is no conflict of interest.

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