Attempted Suicide Hanging Cases Admitted to Emergency Department

Acil Serviste Görülen Ası ile İntihar Teşebbüsü Olguları

Hanging in Emergency Department

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Özet

Amaç: Özkıyım motorlu araç kazalarından sonra ölümün sık nedenlerinden birisidir. Bu geriye dönük çalışmada, 2008-2013 yılları arasında acil servisimizde kabul edilmiş olan ası olguları araştırıldı. Altı yıllık süreçte 22 ası olgusu mevcuttu. Bu hastaların demografik ve klinik özellikleri verildi. Ortanca yaş 33 (17-77); hastaların %68.2' si erkek idi. Başvuru sırasında Glasgow Koma Skoru ortanca değeri 14 (3-15) idi. Hastaların %45.5' i evli idi, %68.2 si işsiz, %63.6' sı ilkokul mezunu idi; üniversite ve üzeri eğitimli hiçbir hasta yoktu. Hastaların üçünde servikal vertebra kırığı mevcuttu. Üç hastada ölüm gerçekleşti. Ölen hastaların sadece birinde servikal kırık mevcuttu, diğer ki hasta boğulma nedeni ile ölmüştü. Hastaların %50' si yatırılarak izlendi. Sonuç olarak, eğitim düzeyi, evlilik durumu, iş sahibi olma özkıyım olgularında önemli faktörlerdir. Başvuru sırasındaki Glasgow Koma Skoru mortalite için önemli bir prognostik faktördür.

Anahtar Kelimeler

Acil Servis; Ası; Özkıyım

Abstract

Aim: Suicide is the second leading cause of death by injury, behind death by motor vehicle accident. In this retrospective study, we investigated hanging cases admitted to our emergency department in the years 2008-2013. Material and Method: There were 22 hanging cases during this six-year period. Demographic and clinical features of the patients are presented in this paper. Results: The median age was 33 (17-77); 68.2% of the patients were male. On admission, the median Glasgow Coma Scale score was 14 (3-15). 45.5% of the patients were married, 68.2% were unemployed, 63.6% had graduated from primary school, none had graduated from university or further studies. In three of the patients, cervical vertebra fracture was present. Three of the patients died. Only one of the patients who died had a cervical fracture; the other two died because of asphyxia. 50% of the patients were hospitalized. Discussion: In conclusion, education level, marital status, and job status are important factors in hanging cases. The Glasgow Coma Scale score on admission is a good prognostic factor for mortality.

Keywords

Emergency Department; Hanging; Suicide

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Introduction

Suicidal behavior is an important public health and psychological problem for both developed and developing countries. Also, suicide is the most common cause of death by injury behind motor vehicle accidents [1]. In a case of hanging, circulation is disrupted due to narrowing in the vertebral artery and common carotid artery. As a result, oxygen and glucose to the brain parenchyma decreases and finally hypoxic encephalopathy occurs [2]. In this study, we investigated the demographic and clinical findings of patients admitted to our emergency department with attempted suicide by hanging.

Material and Method

This study was designed as a retrospective cross-sectional descriptive study. The patients who were admitted to Dışkapı Yıldırım Beyazıt Education and Research Hospital with attempted suicide by hanging in the years 2008-2013 are included the study. There are nearly 260,000 visits yearly and about 900 of them are due to suicide attempts. There were 22 patients admitted with attempted suicide by hanging in the years 2008-2013. Demographic data, previous suicide attempts, substance abuse, cervical vertebra fractures and dislocations, Glasgow Coma Scale (GCS), motor deficits, and hospitalization data were recorded. Clinical outcome was evaluated with the Glasgow Outcome Scale (GOS) [3]; GOS 1: Dead, 2: Unable to interact with environment; unresponsive (Vegetative state), 3: Able to follow commands/unable to live independently (Severe disability), 4: Able to live independently; unable to return to work or school (Moderate disability), 5: Able to return to work or school (Good recovery).

Statistical analyses were done using SPSS 17.0 for Windows program. Descriptive variables were expressed as frequency (percent), median (minimum-maximum), or mean ± standard deviation. Results are presented by tables and graphics.

Results

The mean age was 35.1±13.9, and the median was 33 (17-77); the distribution of ages was normal. 15 of the patients were male (68.2%); the ages of males and females were similar. The mean GCS was 11.3±4.6 and the median was 14 (3-15); half of the patients had a GCS of 15. The demographic data of the patients are shown in Table 1.

All of the females were unemployed; A total of 15 (68.2%) of the patients were unemployed. The unemployment ratio in males was 53.3%.

The clinical findings of the patients are given in Table 2. There was chronic disease in 3 of the patients. A previous history of psychiatric disease was present in 8 (36.4%) of the patients, 4 of whom were taking medication long-term for their psychiatric disorder.

There were 2 patients who were known drug abusers, one of whom was without a psychiatric disease. Alcohol use was present prior to the suicide attempt in 6 (27.3%) of the patients.

Six (27.3%) of the patients had made a previous suicide attempt. Among these 6 patients, 3 had psychiatric problems but only one was using medication for treatment. One was a drug abuser.

The most frequent admission was in July (n=4, 18.2%); there were at most three admissions in the other months. In Figure 1, frequencies in the years 2008-2013 are given.

In clinical evaluation, there were cervical vertebra fractures in three of the patients. These patients were hospitalized in the critical care unit; there were motor deficits in only one of them and that patient died in the hospital. At admission, the GCS scores of all the patients in the study were evaluated. The median GCS score of the patients was 14 (3-15). Three of the patient admitted with a GCS of 3; one with 4; two with 7; the others were higher than 8. All three patients with a GCS of 3 died. Three patients died, one in the critical care unit and the other two in the emergency department. The Glasgow Outcome Score of the patients was 1 in three of the patients, 4 in one patient, and all of the other patients were discharged with a GOS score of 5. 11 patients (50%) were discharged without hospitalization after a brief evaluation in the emergency department.

Table 1. Demographic features of the study patients

		n	%
Sex	Female	7	31.8
	Male	15	68.2
Marital status	Single	5	22.7
	Married	10	45.5
	Divorced	7	31.8
Job status	Jobless	15	68.2
	Self-employment	3	13.6
	State official	1	4.5
	Retired	2	9.1
	Employee	1	4.5
Educational status	Uneducated	2	9.1
	Elementary School	14	63.6
	Middle School	3	13.6
	High School	3	13.6

Table 2. Clinical history of the patients

	n	%
Co-morbid disease	3	13.6
Psychiatric disease	8	36.4
Substance abuse	2	18.2
Alcohol usage	6	27.3
Previous suicide attempt	6	27.3

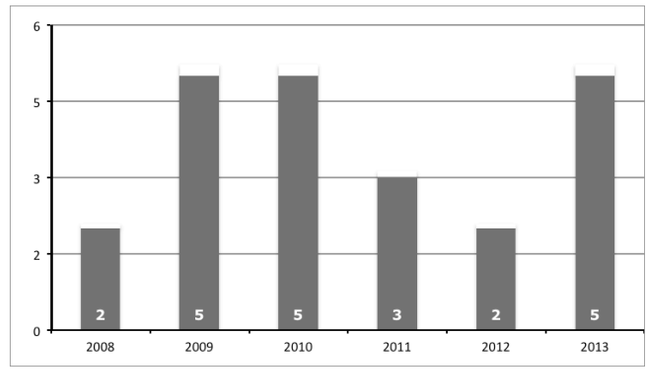

Figure 1. Hanging case frequency 2008-2013

Discussion

Sociodemographic properties such as age, sex, marriage status, job status, economic status, and educational background affect suicidal behavior [4]. Men and women differ in suicidal methods, but also knowledge about suicide and impulses are important in their decision [5]. According to the Turkish Statistical Institute, 3225 people died because of suicide attempts in 2012; 72% of them were male (İntihar İstatistikleri, 2012. Türkiye İstatistik Kurumu, Haber Bülteni 20.06.2013; Sayı:15853). Additionally, Razaeian et al. [6] reported that attempted suicide with hanging was seen more often in males, with a frequency of 76.3%. Wee et al. [7] reported 52 patients with out-of-hospital cardiac arrest (OHCA) due to hanging presented during the 10-year period in a tertiary educational hospital which administer OHCA cardiopulmonary resuscitation approximately 200 patients per year which means that hanging cases have a frequency of 2.9% among OHCA.

In Turkey, 31.7% of the suicidal hanging cases were primary school graduates and half of the cases were married (İntihar İstatistikleri, 2012. Türkiye İstatistik Kurumu, Haber Bülteni 20.06.2013; Sayı:15853). Our study results were compatible with the literature; 63.3% of the patients were primary school graduates and 45.5% of the patients were married; no patients had graduated from university.

In Turkey, the suicide methods of males were 51.5% by hanging, 28.8% by gun shot, and 7.5% by jumping. In females, 48.6% were by hanging, 15.1% were by gun shot, and 17.3% by jumping (İntihar İstatistikleri, 2012. Türkiye İstatistik Kurumu, Haber Bülteni 20.06.2013; Sayı:15853).

Jones et al. reported that in 30% of the patients who died by hanging, ethanol was detected at over 0.2 g/L concentration [8]. Similarly, in our study, alcohol usage was present in 27.3% of the patients. But different studies also reported higher values. For example, in the study by Penney et al. [9], drug or alcohol ingestion was present in 70% of the patients.

We reported three patients with cervical spine fracture (13.6%); Jung Hee Wee et al. [7] reported cervical spine frequency as 7.6%. Non-suicidal hangings rarely result in cervical spine injury [9-11]. Nikolic et al. [12] reported cervical spine injury with a 32.7% frequency in suicidal hanging cases that did not have a long-drop pattern. As we see, the frequency of cervical spine fracture has a wide range in different surveys. This difference could be a result of the study population and the hospital's patient profile; for example it would be expected that the frequency would be different between a trauma center and an ordinary state hospital.

In our study, three of the patients died, so their GOS was 1; the poor outcome frequency in our study was 13.6% (3 out of 22 patients). Jung Hee Wee et al. [7] reported the overall survival rate as 9.6%. Penney et al. [9] reported the poor outcome incidence as 5%. Also they indicated that the GCS at scene or on arrival at hospital was a prognostic indicator. In our study, the GCS of the patients who died was significantly lower than the others; on arrival all of the dead patients had a GCS of 3.

In our study, we report that hanging cases were primarily seen in males who were married, jobless, and primary school graduates. GCS at admission is an important prognostic factor for mortality and poor outcome. Also, the authors are aware that environment might affect the frequency of hanging cases and note that this study reflects only one region. Regional differences and sample size could also affect outcomes.

Conflict of Interest

The authors declare no conflict of interest.

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