

A Difficult Intensive Care Unit Monitorization Case: a Suicidal Attempt at 13 Years of Age by Hanging

İsa Yıldız¹, Esmâ Soylemez²,
Husna Karadayı³,
Mansur Kursad Erkuran⁴,
Hakan Bayır¹, Hamit Yoldas¹

¹Abant İzzet Baysal University, Faculty of Medicine,
Department of Anesthesiology and Reanimation,
Bolu - Turkey

²Mus State Hospital, Department of Anesthesiology and
Reanimation, Mus -Turkey

³Mus State Hospital, Department of Psychiatry,
Mus - Turkey

⁴Abant İzzet Baysal University, Faculty of Medicine,
Department of Emergency Medicine, Bolu - Turkey

ABSTRACT

A difficult intensive care unit monitorization case: a suicidal attempt at 13 years of age by hanging

Suicide among young population is a global challenge increasing over time. Family problems, drug addiction, increased risk of childhood depression may lead to suicidal attempts by hanging with a rope, which is a rarely selected method at younger ages. Increased suicidal attempt rates cause increased rates of intensive care unit monitorization. Psychosocial support is quite important at this age group. In this report, a 13 years old girl, who was monitorized at the intensive care unit after she attempted suicide by hanging, would be discussed.

Keywords: Adolescent, psychosocial support, suicide

ÖZET

Zor bir yoğun bakım takibi: 13 yaşında asi ile özkıyım

Özkıyım gün geçtikçe genç nüfus arasında artış gösteren global bir sorundur. Aile içi sorunlar, madde bağımlılığı, çocukluk depresyonlarındaki artış küçük yaşlarda asi gibi nadir yöntemlerin seçilmesine yol açabilmektedir. Küçük yaşlarda intihar oranının artması yoğun bakım takiplerine neden olabilmektedir. Psikososyal destek bu yaş gruplarında oldukça önemlidir. Bu sunumda onüç yaşında asi ile özkıyım girişimi sonrası yoğun bakımda takip edilen bir kız çocuğu tartışılacaktır.

Anahtar kelimeler: Ergen, psikososyal destek, özkıyım



Address reprint requests to / Yazışma adresi:
İsa Yıldız,
Abant İzzet Baysal University, Faculty of
Medicine, Department of Anesthesiology and
Reanimation, 14280 Golkoy/Bolu, Turkey

Phone / Telefon: +90-374-253-4656/3263

E-mail address / Elektronik posta adresi:
dr.isayildiz@hotmail.com

Date of receipt / Geliş tarihi:
July 6, 2015 / 6 Temmuz 2015

Date of the first revision letter /
İlk düzeltme öneri tarihi:
August 3, 2015 / 3 Ağustos 2015

Date of acceptance / Kabul tarihi:
September 14, 2015 / 14 Eylül 2015

INTRODUCTION

Suicide is a global public health problem that an individual harms her/himself in addition to her/his social environment (1). Although it is rarely encountered under the age of 14 years, there is recently an increasing trend among adolescent age group (2,3). This condition, which is generally observed as unsuccessful attempts performed inexpertly and more commonly at emergency rooms, has been encountered at earlier ages requiring intensive care unit monitorization (4). In this presentation, we would like to draw attention of all physicians, who interact with patients from different age groups and with different diseases in the context of

social responsibility, to a 13 years old suicidal case by hanging. Written informed consent.

CASE

A 13 years old girl was found as hanging in the barn near her house by her family, and she was taken to the emergency room of an external healthcare unit, and it was said that she had cardiac arrest. As the patient responded to cardiopulmonary resuscitation, she was transferred to our hospital for intensive care unit monitorization and treatment. In the first examination at the emergency room, she was intubated, Glasgow coma scale of 3, arterial blood pressure of 91/63 mmHg, heart rate of 112/min,

body temperature of 37.5°C. Her pupils were meiotic, and there was the ligature mark of hanging rope. After cranial and thoracic computed tomography (CT) examinations, the patient was transferred to intensive care for monitorization, and she was attached to the mechanical ventilator. The biochemical results were leukocyte=10.9K/uL, blood glucose=243mg/dl, aspartate aminotransferase (AST)=159IU/L, Alanine aminotransferase (ALT)=93IU/L, alkaline phosphatase (ALP)=136U/L, amylase=235U/L, creatine kinase (CK)=229U/L, CK-MB=48U/L; the blood gas analysis revealed pH=7.12, PaO₂=76mmHg, PaCO₂=55mmHg, HCO₃=17.9mmol/L, and SpO₂=89%. Thoracic CT examination indicated rib fractures due to cardiopulmonary resuscitation with lung contusion, and diffuse infiltration. In the cranial CT, edematous changes due to hypoxia were determined, and anti-edema treatment was started with mannitol at 6x100g dose. The patient received 5 ampoules of NaHCO₃ as intravenous (IV) bolus, and then she had the infusion of 5 ampoules NaHCO₃ in 1000ml of 0.9% at 100 cc/hour rate. At the Hour 12 of the follow-up, bicarbonate infusion was stopped because blood gas analysis was recovered. The patient had increase tachycardia, and decreased blood pressure, so 2 ampoules of dopamine in 100cc was infused at 10cc/hour rate with diltiazem treatment. The elevations of AST, ALT, CK, and CK-MB which continued for 3 days, started to decrease on the Day 4, and her leukocytes were increased. As the blood glucose was measured as 370mg/dl on Day 4, 10 units of crystalline insulin was administered. As her blood pressure was recovered, dopamine was tapered down. The patient had another arrest on Day 5 of the follow-up, despite all interventions, she did not respond, so she was dead.

In the family interview, it was told that the patient had no mental or physical disease, and she was the fourth child of a family with five children, but the father could provide the living of the family under difficult circumstances.

DISCUSSION

Suicide is defined as ending of oneself his/her life voluntarily. Hopelessness is evaluated as the burn-out

syndrome caused by desperation, and excessive stress. In this aspect, it should be realized as a way to escape rather than a disease (5). Factors increasing the risk of suicide are known as substance abuse, psychiatric diseases, chronic medical disorders, and negative family conditions. Additionally, it is also reported that conditions such as severe childhood depression, family conflicts, negative criticisms against the child's personality made by the family and friends, pressure, receiving no interest from the opposite sex, feeling of inability for success, and academic failure may increase the risk of suicide (5). Recently, it has been reported that the increased rate among younger ages has originated from effects of violence news in visual and printed media (6). Early physical and sexual abuse with parental neglect are proved risk factors for adolescent suicidal behavior (7).

The conducted studies reported that suicidal attempt was more common in girls, whereas completed suicide was more frequent among boys (8). Yalaki et al. (9) reported the suicidal attempt rate among children in 11-13 years of age as 15%, and when they evaluated all suicide cases the female ratio was determined as 82.6%. They drew attention that suicidal attempt was not less under 14 years of age, and suicidal attempt age was decreased (9). Consistently with the previous study results, Kucuker ve Aksu (5) reported this ratio high among girls, and they reported suicidal attempt ratio as 49.4% among individuals at 12-20 years of age. On the contrary to the literature, they reported completed suicide rate was higher in girls than boys, and they concluded that the underlying reasons were position of women in the family, life style, low educational level, and living their whole lives under pressure in the Eastern Anatolian region. Although methods chosen for suicidal attempts are variable according to population and environmental factors, the most commonly chosen ones are hanging, drugs, attempts by using sharp objects, getting drowned in water, jumping off a high building, and by using fire guns (10). Zoroglu et al. (11) performed a study on 912 student aging between 14-17.5 years of age, and they reported selected methods for suicide as high dose drug intake, cutting the body, and jumping

off a high building, and hanging by a rope at a very low rate (0.6%) in girls.

As hanging is commonly a method for suicidal attempt, but it may be rarely related to suffocation case due to a murder or accident (12). Causes of death during hanging are obstruction airways and veins in the neck, reflex cardiac arrest developed due to stimulation of receptors in the neck, and also medullary spine lesions. Individuals who are saved from hanging may have different pathologies in their lungs and brains. The sign of the rope used during hanging is called ligature mark, lace and type of which are important to differentiate between hanging and being suffocated as well as determination of material used for hanging are important subjects for forensic medicine (13). In the presented case, there was a ligature mark on her neck, because she hanged herself in the barn near her house for suicidal purpose.

Although medical and agricultural drugs, sharp objects or fire guns are used for suicidal purpose in the Eastern Anatolian region by older age groups; in the literature review we did not come across to any data related to success rate in suicide in younger age group by hanging. We concluded that our case might attempted suicide because she was living in a rural area under minimum living conditions as one of many children of the family. However, we believed that the family tried to hide the possible suicidal cause of the child because of the region, customs and the culture. In rural areas, previous sad experiences may be told as histories. It was also reported that common use of technologies of current era, such as television, computer, and internet seriously threaten body and

mental health of adolescents (14). This condition indicated us that she chose this method because she was affected by media or environmental influences.

Adolescence is a period during which body and brain contents are re-constituted, and great changes are experienced both bodily and mentally. Coping with these changes along with development of one's personality during this period is quite a challenging experience for a young individual. Although this period is processed normally, it brings difficulties even for the individual and the family and the related risks at the same time (15).

In conclusion, it is believed that awareness raising about increasing tendency of suicide rates in this age group is important by performing both national and international campaigns; wide spreading of school and adolescent healthcare services; and informing parents about this issue are important. Child-family and the environment should be evaluated as a whole in prevention of suicidal attempts.

Contribution Categories	Name of Author
Follow up of the case	I.Y., E.S., H.K.,
Literature review	I.Y., H.B., E.S., M.K.E., H.Y.
Manuscript writing	I.Y., H.B., E.S., H.K., M.K.E., H.Y.
Manuscript review and revision	I.Y., H.B., H.K., M.K.E., H.Y.

Conflict of Interest: Authors declared no conflict of interest.

Financial Disclosure: Authors declared no financial support.

REFERENCES

1. Alvin P. Suicidal behavior in adolescents. What questions for the professional? *Arch Pediatr* 2000; 7:661-667. [CrossRef]
2. Sever M, Ulas E, Kosargelir M. An evaluation of the pediatric medico-legal admissions to a tertiary hospital emergency department. *Turkish Journal of Trauma and Emergency Surgery* 2010; 16:260-267. (Turkish)
3. Kurihara T, Kato M, Reverger R, Tirta IGR. Risk factors for suicide in Bali: a psychological autopsy study. *BMC Public Health* 2009; 9:327. [CrossRef]
4. Sayar K, Bozkır F. Predictors of suicide intent and lethality in a sample of adolescent suicide attempters. *New Symposium* 2004; 42:28-36. (Turkish)
5. Kucuker H, Aksu A. Evaluation of suicide cases in Elazig in terms of forensic medicine. *Dusunen Adam: The Journal of Psychiatry and Neurological Sciences* 2002; 15:16-20. (Turkish)
6. Yalaki Z, Potur ED, Ercan S, Arıkan FI, Tiras U, Dallar Y. How violence on TV effect our children? *Medical Journal of Bakirkoy* 2012; 8:85-88. (Turkish)

7. Akin E, Berkem M. Adverse life events in adolescent suicide attempters: a case control study. *Firat Medical Journal* 2013; 18:26-29. (Turkish)
8. Pomerantz W, Gittelman M, Farris S, Frey L. Drug ingestions in children 10-14 years old: an old problem revisited. *Suicide Life Threat Behav* 2009; 39:433-439. **[CrossRef]**
9. Yalaki Z, Tasar M, Yalcin N, Dallar Y. Evaluation of suicide attempts in childhood and adolescence *Ege Journal of Medicine* 2011; 50:125-128. (Turkish)
10. Unlu G, Aksoy Z, Ersan EE. Evaluation of child and adolescents with attempted suicide. *Pamukkale Medical Journal* 2014; 7:176-183. (Turkish) **[CrossRef]**
11. Zoroglu SS, Tuzun U, Sar V, Ozturk M, Kora ME, Alyanak B. Probable results of childhood abuse and neglect. *Anatolian Journal of Psychiatry* 2001; 2:69-78. (Turkish)
12. Demirci S, Dogan KH. Types of asphyxia and examination of dead bodies in asphyxia cases. *Clinical Development* 2009; 22 (Forensic Medicine Special Issue):23-32. (Turkish)
13. Dogan KH, Demirci S, Erkol Z, Gulmen MK. Accidental hanging deaths in children in Konya, Turkey between 1998 and 2007. *J Forensic Sci* 2010; 55:637-641. **[CrossRef]**
14. Camurdan AD. The effects of visual media on child health. *Sürekli Tıp Eğitimi Dergisi* 2007; 16:25-30. (Turkish)
15. Celik G, Tahiroglu A, Avci A. Structural and neurochemical changes of brain in adolescence. *Journal of Clinical Psychiatry* 2008; 11:42-47. (Turkish)