

Yedi Yaş Altındaki Çocuklarda Televizyon Düşmesi Nedeniyle Oluşan İzole Kafa Travmaları

Isolated Head Injuries Caused by Fallen Television under the Age of Seven

Aynur Yurtseven¹, Sinan Yıldırım², Fatih Büyükcam³, Nihat Danlı¹, Muhammed Evvah Karakılıç⁴

¹ Sincan Devlet Hastanesi Acil Servisi, Ankara

² Ağrı Devlet Hastanesi Acil Servisi, Ağrı

³ Ankara Dışkapı Yıldırım Beyazıt Eğitim Ve Araştırma Hastanesi Acil Tıp Kliniği, Ankara.

⁴ Ankara Numune Eğitim Ve Araştırma Hastanesi Acil Tıp Kliniği, Ankara

Özet

Başvuru Tarihi: 11.07.2013 **Kabul Tarihi:** 30.12.2014

Amaç: Ev kazaları tüm kazaların yaklaşık %25'ini oluşturur. Bu kazaların da bir kısmını televizyon düşmeleri oluşturmaktadır. Bu çalışmada evde televizyon düşmesi nedeni ile oluşan izole kafa travmaları araştırıldı.

Gereç ve Yöntem: Bu retrospektif çalışmaya, dört yıllık bir periyotta, acil servise, üzerine televizyon düşmesi sonrası getirilen ve izole kafa travması olan yedi yaş altında 26 çocuk hasta dahil edildi. Hastaların yaş grupları ve BT'de görülen patolojiler ve mortaliteler araştırıldı.

Bulgular: Bir yaş altında hasta yoktu ve vakaların 19'u (%73.0) 2 yaş üzerindedir. Mortalite 5 (%19.2) idi. Hastalarda en sık görülen BT bulgusu öncelikle yumuşak doku şişliği (%34.6), sonrasında lineer kemik kırıkları (%30.7) idi.

Sonuç: Televizyon düşmeleri ile yaralanmalarda mortalite tüm kafa travmalarında görüldenden daha fazla olduğu görüldü. Bu nedenle televizyon düşmeleri ile gelen hastaların dikkatle değerlendirilmesi gerekmektedir. Ayrıca, evlerde televizyon düşmelerine karşı alınabilecek tedbirler hakkında toplumsal bilinçlendirme yapılması kazaları ve buna bağlı olarak da mortalite ve morbiditeyi azaltacaktır.

Anahtar Kelimeler: Çocuk travma, kafa travması, televizyon

Abstract

Application: 11.07.2013 **Accepted:** 30.12.2014

Background: Home accidents constitute 25% of all accidents. Some of them are caused by fallen television. In this study we investigated isolated head traumas caused by fallen television at home.

Methods: In this retrospective study, in a four year period, 26 children under the age of seven that are admitted to the emergency department after head injury caused by fallen television at home are included the study.

Results: There wasn't any patient in the first age, most of them were equal and older than two years of age. Mortality was 5 (19.2%). The most frequent computed tomography finding was soft tissue swelling (34.6%) and the following was linear fractures of cranium (30.7%).

Conclusion: Mortality after head trauma caused by fallen television is higher than mortality of all head traumas. So we have to investigate this type of patients carefully for mortality. Furthermore, public education programs about precautions against home accidents caused by fallen television could decrease accidents and also mortality and morbidity.

Keywords: Pediatric trauma, head trauma, television

Introduction

Home accidents consist of 24.9% of all accidents¹. In a study carried out in Spain among the children under the age of 16, 55.7% of accidents of the accidents occurred in home². Home accidents are important public health problem because of high morbidity and mortality, especially in children and elderly³. Falls, fall of objects on, burns, scalding, poisoning, cuts, electrical accidents and drowning in water are some of the types of home accidents⁴. In case of head trauma mortality rate is between 2-15%⁵. Here in, we investigated head traumas among home accidents caused by fallen televisions in a four year period.

Material and Methods

This retrospective study performed in a pediatric trauma center between Jan 1, 2009 – Dec 31, 2012. All patients under the age of seven who was admitted to the emergency department after isolated head trauma caused by fallen television. Patients with multisystem injury, equal and above the age of seven are excluded the study. Age, sex, radiologic findings, Glasgow coma scales, operation and mortality records are investigated. 26 patients were included the study. Glasgow coma scale was divided into three groups; 0-8 severe, 9-13 moderate and 14-15 mild.

Continuous variables are expressed as mean±standard deviation; countable variables are expressed as percents.

Results

M/F ratio was 3/4. Mean age was 38±16 months. Age groups were expressed in Table 1. There wasn't any case under the age of one. It is probably because of their mobility.

Mortality is seen in 5 (19.2%) patients; three of them were diagnosed as subdural hematoma, one is epidural hematoma and the last was subarachnoid hematoma. Glasgow coma scales of the dead patients are smaller than¹³.

7 (26.9%) of the patients was undergone surgery, 9 (34.6%) of them hospitalized in critical care unit.

Computed brain tomography findings and their mortality rates are given in Table 2. The most frequently seen pathology

was soft tissue swelling (34.6%) and the second was linear fractures (30.7%) of the cranium.

Table 1. Age and mortality of age groups

	N	Age (month) mean±sd	Dead N (%)	Male/ Female
Newborn (0-4 week)	0	0	0	0
Infant (1-12 months)	0	0	0	0
Infant (12-24 monts)	7	21.6±2.5	1 (%14.3)	5/2
Early childhood (2-6 years)	19		4 (%21.1)	7/12

Table 2. Computed tomography findings

	N (%)	Dead N (%)	Glasgow coma Scale		
			0-8	9-13	14-15
Soft tissue swelling	9	0	0	0	9
Linear fracture	8	0	0	2	6
Collapse fracture	2 (7.6%)	0	0	1	1
Subdural hematoma	4	3	0	4	0
Epidural hematoma	2 (7.6%)	1	1	0	1
Subarachnoid hematoma	1 (3.8%)	1	0	1	0

Discussion

In United States, 1.1 million patients admit to emergency departments after head traumas there are 235.000 patients that are hospitalized and 50.000 die among them in every year⁶. Işık et al. showed a 3.8% of mortality among head traumas in children⁷. Head trauma caused by fallen television causes greater mortality and morbidity than the other types of head traumas among children⁸⁻¹⁰. Also in our study the mortality rate was 19.2%. Our hospital is a trauma center in our city and clinically effective in severe cases may have been referred to our hospital. As a result, mortality rate was higher than other studies that have been made previously.

Studies investigating the causes of the injuries by fallen television show an increase in the number of the cases about this concern in recent years; also they claim that this increase is a result of the increase in the use of plasma or LCD televisions;

and also because of insufficient prevention of families^{8,11-13}. Relatives of the patients was learned that they use most of the plasma television in our study.

Marnewick et al. reported 13 patients after trauma by fallen television, 9 of them have head trauma and the mortality rate was 11.1%, in our study, mortality rate was 19.2%. Glasgow Coma Scale not seen as a decisive factor at mortality in our study. In 4 patients in the study who died of subdural hematoma, epidural hematoma of patients in 2 of them, one of the patients had subarachnoid hemorrhage. According to the glasgow coma scale in the distribution of the patients were 14-15 points one of them, five of them patients 9-13 points, only one of them was under 8 points. According to this first

admission rate of patients with Glasgow coma scale has been shown that mortality could not be given. In addition, children under 12 months of study, the absence of these accidents indicates that increases with initiation of walking.

As a result, head traumas caused by fallen television have high mortality rates. So patients admitted after head trauma by fallen television should be evaluated carefully but the important thing is to prevent the falls of televisions. Besides, public education programs like television programs and educational seminars about precautions against home accidents caused by fallen television could decrease accidents and also mortality and morbidity.

1. Nazlıcan E, Demirhindi H, Karaömerlioğlu Ö, Akbaba M, Gökel Y. Çukurova Üniversitesi Tıp Fakültesi büyük acil servisine başvuranlarda ev kazalarının değerlendirilmesi. *Kor Hek* 2008;7:137-40.
2. Verdeja-Morales E, del Valle-Borjas P, Mendoza-Contreras A. [Epidemiology of traumatic lesions in children seen at Cerralvo General Hospital]. *Acta Ortop Mex*. 2008;22(3):175-9. Epub 2008/10/02. *Epidemiologia de lesiones traumaticas en infantes atendidas en el Hospital General de Cerralvo, Nuevo Leon*.
3. Farchi S, Camilloni L, Giorgi Rossi P, Chini F, Borgia P, Guasticchi G. Home injuries mortality: sensitivity and specificity analysis of different data sources and operative definitions. *Accident; analysis and prevention*. 2007;39(4):716-20. Epub 2007/01/06.
4. Dean R, Mulligan J. Management of home emergencies. *Nurs Stand*. 2009;24(6):35-42. Epub 2009/11/11.
5. Tsai WC, Chiu WT, Chiou HY, Choy CS, Hung CC, Tsai SH. Pediatric traumatic brain injuries in Taiwan: an 8-year study. *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*. 2004;11(2):126-9. Epub 2004/01/21.
6. Rutland-Brown W, Langlois JA, Thomas KE, Xi YL. Incidence of traumatic brain injury in the United States, 2003. *The Journal of head trauma rehabilitation*. 2006;21(6):544-8. Epub 2006/11/24.
7. Isik HS, Gokyar A, Yildiz O, Bostanci U, Ozdemir C. [Pediatric head injuries, retrospective analysis of 851 patients: an epidemiological study]. *Ulusal travma ve acil cerrahi dergisi = Turkish journal of trauma & emergency surgery : TJTES*. 2011;17(2):166-72. Epub 2011/06/07. *Cocukluk cagi kafa travmaları, 851 olgunun retrospektif degerlendirilmesi: Epidemiyolojik bir calisma*.
8. Guloglu R, Sarici IS, Bademler S, Emiricki S, Issever H, Yanar H, et al. Falling television related child injuries in Turkey: 10-year experience. *Ulusal travma ve acil cerrahi dergisi = Turkish journal of trauma & emergency surgery : TJTES*. 2012;18(1):61-4. Epub 2012/02/01.
9. Scheidler MG, Shultz BL, Schall L, Vyas A, Barksdale EM, Jr. Falling televisions: The hidden danger for children. *Journal of pediatric surgery*. 2002;37(4):572-5. Epub 2002/03/26.
10. DiScala C, Barthel M, Sege R. Outcomes from television sets toppling onto toddlers. *Archives of pediatrics & adolescent medicine*. 2001;155(2):145-8. Epub 2001/02/15.
11. Rutkoski JD, Sippey M, Gaines BA. Traumatic television tip-overs in the pediatric patient population. *The Journal of surgical research*. 2011;166(2):199-204. Epub 2010/09/25.
12. Gottesman BL, McKenzie LB, Conner KA, Smith GA. Injuries From furniture tip-overs among children and adolescents in the United States, 1990-2007. *Clinical pediatrics*. 2009;48(8):851-8. Epub 2009/05/06.
13. Murray KJ, Griffin R, Rue LW, 3rd, McGwin G, Jr. Recent trends in television tip over-related injuries among children aged 0-9 years. *Injury prevention : journal of the International Society for Child and Adolescent Injury Prevention*. 2009;15(4):240-3. Epub 2009/08/05.