



Abstract

Epidemiologic Analysis of the Trauma Patients Visiting an
Urban Specialized-emergency Medical Center

Gyu Chong Cho, M.D., Lee Sang Mun, M.D., Hui Dong Kang, M.D.,
You Dong Sohn, M.D., Bum Jin Oh, M.D., Won Kim, M.D., Kyoung Soo Lim, M.D.

Department of Emergency Medicine, College of Medicine, Uisan University, Ulsan University, Seoul, Korea

Background: Although trauma has been the major cause of death in Korea, there are few reports describing the epidemiologic characteristics of trauma victims according to age-group. Thus, this study aimed to describe the epidemiologic characteristics of trauma victims visiting an urban emergency medical center in Korea.

Method: This study was conducted with all trauma victims who visited the emergency departments of Asan Medical Center from April 11, 2005 to May 10, 2005. After the subjects were divided into three groups such as child(< 14 years old), adult(15-64 years old) and elderly(≥ 65 years old), the prehospital courses, injury mechanisms, injury severities and clinical results were compared.

Result: Among total 5,927 patients who visited the emergency medical center, 896(15.1%) patients were trauma victims. Although child under the age of 15 comprised 28.7% of the total trauma victims, less severe injuries(injury severity score < 9) accounted for 97.7% of the cases. The hospitalization rate for injury among child was 21.5%. However, although elderly aged ≥ 65 comprised only 5.9% of the total trauma victims, more severe injuries(injury severity score ≥ 9) accounted for 30.2% of the cases. The hospitalization rate for injury among elderly was 56.4%.

Conclusion: Patterns of injury and clinical results by age-group were considerably different. Less severe and non-hospitalized injuries were more common in child than other age-groups. While severe and hospitalized injuries were common in elderly.

Key Words: Epidemiology, Trauma, Age-group

* Address for Correspondence : **Kyoung Soo Lim, M.D.**
Department of Emergency Medicine, Asan Medical Center
388-1 Pungnap-2 dong Songpa-gu, Seoul 138-736, Korea
Tel : 82-2-3010-3345, Fax : 82-2-3010-3360, E-mail : kslim@amc.seoul.kr

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1.
 5,927
 896 15.1%
 , 15 가 257
 (28.7%) , 15 64 가
 586 (65.4%) , 65 53
 (5.9%) . 10
 215 (24%) 가 , 20 153 (17.1%),
 30 40 가 125 (14.0%)
 , 60 70 52 (5.8%) 33
 (3.7%) 가 (Fig. 1).

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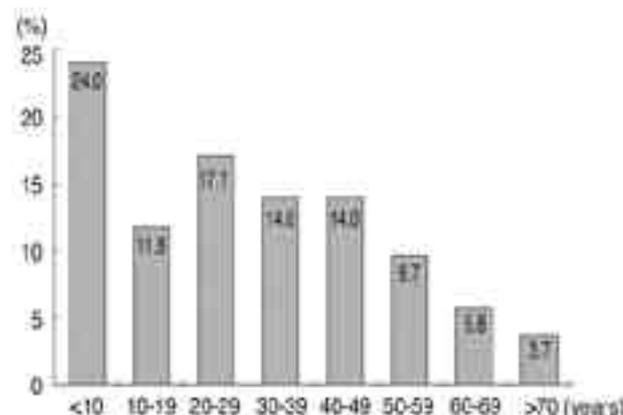


Fig. 1. Distribution of trauma patients according to age.

2. 가 , 187 (20.9%), 98 (10.9%), 87 (9.7%), 67 (7.5%), 45 (5.0%), 16 (1.8%) (Fig 2). 681 (76.0%) 가 , 200 (22.2%) 14 (1.6%) , 1 (0.1%) . 3. 5.6±3.8 , 36.7±13.4 , 74.0±7.0 (p<0.01), 180 (70.0%), 395 (67.4%) 18 (34.0%) (p<0.01). (9 5) 66 (25.7%), 120 (20.5%), 15 (28.3%) (p=0.143), 191 (74.3%), 466 (79.5%), 38 (71.7%) (Table 2). , 38 (14.8%), 102 (17.4%), 16 (30.2%) 가 , (p<0.01) .

Table 1. General characteristics of trauma patients

Variables	n (%)
Number of patients	896 (100.0)
Age (year)	30.0 ± 21.0
Sex (male)	593 (64.6)
Time of visit	
Day (09:00 ~ 17:00)	201 (22.4)
Night/weekend/Holiday	696 (77.6)
Route of visit	
From scene	740 (82.6)
Transferred	156 (17.4)
Transportation	
Private vehicle	649 (72.4)
Ambulance	223 (24.9)
Others	24 (2.7)
Injury severity score (ISS)	2.8 ± 5.2
Severity classification	
Mild (ISS < 9)	821 (91.6)
Moderate (9 ≤ ISS < 16)	51 (5.7)
Severe (ISS ≥ 16)	24 (2.7)
Disposition	
Discharge	681 (76.0)
Ward admission	200 (22.2)
ICU* admission	14 (1.7)
Death	1 (0.1)

ICU*: Intensive Care Unit

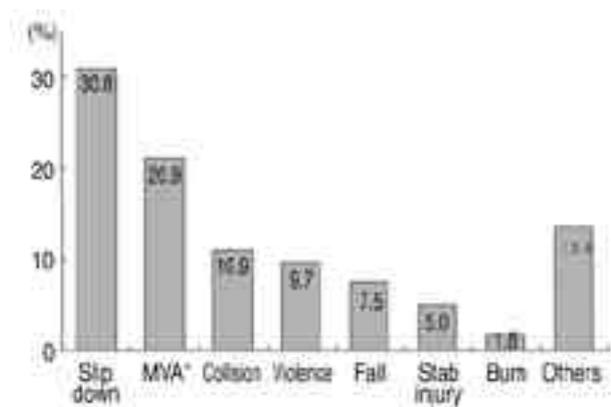


Fig. 2. Injury mechanisms of trauma patients.

MVA*: Motor Vehicle Accident

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1 (0.4%), 22 (3.8%), 1 (1.9%)
(p=0.019).

41 (16.0%), 155 (26.5%), 27 (50.9%)
가

(p<0.01), 91 (35.4%), 158 (27.0%), 27 (50.9%)
(p<0.01).

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(p<0.01).

37 (14.4%), 137 (23.4%), 13 (24.5%)
(Table 3, p<0.01).

1.8±2.1 , 3.0±5.4 , 5.7±10.4
(p<0.01).

37 (14.4%), 27 (4.6%), 3 (5.7%)
(p<0.01).

8 (3.1%), 78 (13.3%), 1 (1.9%)
(p<0.01), 3

533 (91.0%), 37 (69.8%)
가
(p<0.01), (1.2%), 41 (7.0%), 1 (1.9%)
(p<0.01).

5 가
(1.9%), 31 (5.3%), 15 (28.3%)
가
(p<0.01).

23 (43.4%) 가
225 (85.5%), 433 (73.9%),
가

Table 2. Characteristics of trauma patients according to age group

Variables	Age group			p-value
	Child	Adult	Elderly	
Number of patients	257 (28.7)	586 (65.4)	53 (5.9)	
Age (year)	5.6 ± 3.8	36.7 ± 13.4	74.0 ± 7.0	< 0.01
Sex (male)	180 (70.0)	395 (67.4)	18 (34.0)	< 0.01
Time of visit				
Day (09:00 ~ 17:00)	66 (25.7)	120 (20.5)	15 (28.3)	0.143
Night/weekend/Holiday	191 (74.3)	466 (79.5)	38 (71.7)	
Route of visit				
From scene	219 (85.2)	484 (82.6)	37 (69.8)	0.028
Transferred	38 (14.8)	102 (17.4)	16 (30.2)	
Transportation				
Private vehicle	197 (76.7)	426 (72.7)	26 (49.1)	< 0.01
Ambulance	41 (16.0)	155 (26.5)	27 (50.9)	< 0.01
Others	19 (7.4)	5 (0.9)	0 (0.0)	< 0.01
Injury severity score (ISS)	1.8 ± 2.1	3.0 ± 5.4	5.7 ± 10.4	< 0.01
Severity classification				
Mild (ISS < 9)	251 (97.7)	533 (91.0)	37 (69.8)	< 0.01
Moderate (9 ≤ ISS < 16)	5 (1.9)	31 (5.3)	15 (28.3)	< 0.01
Severe (ISS ≥ 16)	1 (0.4)	22 (3.8)	1 (1.9)	0.019
Disposition				
Discharge	225 (85.5)	433 (73.9)	23 (43.4)	< 0.01
Ward admission	31 (21.1)	141 (24.1)	28 (52.8)	< 0.01
ICU* admission	1 (0.4)	12 (1.9)	2 (3.8)	0.047 [†]
Death	0 (0.0)	1 (0.1)	0 (0.0)	

ICU*: Intensive Care Unit, + by Fisher's Exact Test

— 18 2 —

(p<0.01), 15 28.7%

31 (21.1%), 141 (24.1%), 28 19.1%

(52.8%) 1 (0.4%), 12 (1.9%), 2 (3.8%) (9). 1993

가 가 10

(p<0.01). 24.9% 가 25%

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15.1% , 30%

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가 16 0.4%

가 85.5% 가

(5-8). 가

30.8% ,

가 ,

가

10 ,

24% 가 , 1, 2

Table 3. Injury mechanism of trauma patients according to age group

Injury Mechanism	Age group			p-value
	Child	Adult	Elderly	
Slip down	91 (35.4)	158 (27.0)	27 (50.9)	< 0.01
MVA*	37 (14.4)	137 (23.4)	13 (24.5)	< 0.01
Collision	32 (12.5)	64 (10.9)	2 (3.8)	0.183
Violence	8 (3.1)	78 (13.3)	1 (1.9)	< 0.01
Fall	37 (14.4)	27 (4.6)	3 (5.7)	< 0.01
Stab injury	3 (1.2)	41 (7.0)	1 (1.9)	< 0.01
Burn injury	6 (2.3)	10 (1.7)	0 (0.0)	0.681 [†]
Others	43 (16.7)	71 (12.1)	6 (11.3)	0.175
Total	257 (100.0)	586 (100.0)	53 (100.0)	

MVA*: Motor Vehicle Accident, [†]by Fisher 's Exact Test

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65
5.9% (9), 9.1%

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가

1,2 3 가

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(10).

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가

70.8% 가

가

Schawb
(14-5).

가

가

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