

Original Article

Evaluation of cases over 65 years of age who applied to Turgut Özal Medical Center forensic medicine polyclinic

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Abstract

Aim: In this study, it was aimed to define the forensic report records of cases aged 65 and over at the time of the incident, to determine the distribution of the incident according to years and months, age, gender, organs affected by trauma, and type of incident.

Materials and Methods: 56 cases whose age was 65 years and above at the time of the incident were retrospectively examined; it was evaluated according to the “Guide for Forensic Medicine Evaluation of Injury Crimes Defined in the Turkish Penal Code” in terms of year, month, type of incident, age, gender, causes of trauma, and injury areas. The cases were evaluated at İnönü University, Department of Forensic Medicine between January 2013 and December 2021.

Results: Of the 56 evaluated cases, 34 (60.7%) were male and 22 (39.3%) were female. The cases were aged between 65-74 with 33 cases (58.9%), and then 75-84 years with 20 cases (35.7%). The mean age was 73.25±6.52 years and the maximum age was 91. Traffic accidents were the most common cause of trauma with 53.6%. Head and neck were the most affected body area.

Conclusion: The damage caused by similar traumas in elderly individuals can be much more than in other age groups. In order to reduce material and moral losses due to trauma, ergonomic designs that will make the lives of the elderly easier in daily life should be used and space-oriented solutions should be preferred.

Keywords: Trauma, 65 years old, forensic reports, forensic cases

INTRODUCTION

Old age is known as an irreversible process of life. [1]. The physiological dimension describes the changes seen with chronological age; the psychological dimension describes the change of orientation in terms of psychomotor, problem solving, perception, learning and individual characteristics as chronological age progresses. [2]. The World Health Organization considers people aged 65 and above as elderly. Our country is among the countries where the elderly population is rapidly increasing [3-5]. The number of elderly patients applying to emergency departments is increasing day by day [6]. Geriatric trauma patients are groups that often have existing comorbidities and are more affected by physical trauma than other age groups [7]. Physical traumas may require long-term hospitalization and

more regular clinical follow-up in this age group. [8].

Final reports of forensic cases are prepared based on the Guide for Forensic Evaluation of Injury Crimes Defined in the Turkish Penal Code, published in June 2019. The guide contains answers to questions such as whether the person's injury can be eliminated with simple medical intervention, whether it causes a life-threatening situation, whether it causes a bone fracture, and if there is a fracture, its scoring, whether it causes a permanent scar on the face, and it guides physicians in writing a final report [9]. In this study, it was aimed to determine the characteristics such as the distribution of the event according to years and months, age, gender, organs affected by the trauma, and type of event by examining the final report records of the cases who were 65 years of age and over at the time of the incident.

CITATION

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MATERIAL AND METHOD

56 cases, aged 65 years and over at the time of the event, for which a final report was prepared between January 2013 and December 2021 at Inonu University, Department of Forensic Medicine, were retrospectively examined. Cases were evaluated for year, month, type of incident (traffic accident, assault, fall, burn, stab wound), age, gender, areas of injury (face, head-neck, thorax, abdomen-pelvis, upper extremity, lower extremity) and life-threatening, simple medical intervention, bone fracture scores, fixed scars on the face, sensation, organ weakness according to the Forensic Evaluation Guide of Injury Crimes Defined in the Turkish Penal Code. While making the evaluations, the Guide for Forensic Medicine Evaluation of Injury Crimes Defined in the Turkish Penal Code, published in June 2019, was used.

Age groups were examined in 3 groups: early (65-74), middle (75-84) and advanced (>85) old age. Bone fracture scores were evaluated as mild (1), moderate (2, 3) and severe (4, 5, 6). SPSS 24.0 program was used. Ethical approval was obtained from the Scientific Research and Publication Ethics Committee of Inonu University on 12.12.2023 with the decision number 2023/5372.

RESULTS

Of the 56 cases evaluated, 34 (60.7%) were male and 22 (39.3%) were female (Table 1). The cases were divided into 3 groups: 65-74, 75-84 and over 85 years of age (2). The ages were mostly between 65-74 with 33 cases (58.9%), then 75-84 with 20 cases (35.7%) (Table 1). The average age was calculated as 73.2±6.52 (age range, 65–91 years).

Table 1. Gender-age range

		Years			Total
		65-74	75-84	85<	
Male	n	19	14	1	34
	%	33.9	25	1.8	60.7
Female	n	14	6	2	22
	%	25	10.7	3.6	39.3
Total		33	20	3	56

When the distribution of cases by months is examined; it was observed that 12 cases (21.49%) were admitted in October and 8 cases (14.3%) were admitted in July, respectively. When sorted according to seasonal distribution, it was seen that the most cases were in autumn with 22 cases (39.3%) and the least cases were in spring with 9 cases (16.1%). When the distribution of incident types according to seasons was examined, it was determined that traffic accidents occurred most in autumn (n: 13) and least in spring (n: 4).

Traffic accidents were the most common cause of trauma with 53.6%, cases caused by assault were in the second place, and falling cases were in the third place (Table 2). When the injury areas were evaluated, it was seen that the cases received trauma mostly from the head and neck region (n: 22), followed by the

lower extremities (n: 19) (Table 3). Bone fractures occurred in 28 cases, and when the fracture degrees were evaluated, it was seen that 1 case was rated as mild, 11 cases as moderate, and 16 cases as severe.

Table 2. Event type

	n	%
Traffic accident	30	53.6
Assault	20	35.7
Fall	3	5.4
Burn	1	1.8
Cutting and stabbing injury	2	3.6
Total	56	100

Table 3. Correlation between incident type and injury sites

		Event type					Total
		Traffic accident	Assault	Fall	Burn	Cutting and stabbing injury	
Body part	Face	5	11	0	0	1	17
	Head-neck	9	10	2	0	1	22
	Thorax	15	1	1	0	2	19
	Abdomen-pelvis	7	6	0	1	2	16
	Upper extremity	8	7	1	1	0	17
	Lower extremity	11	7	0	1	0	19
	Vertebra	6	0	0	0	0	6
Total		61	42	4	3	6	*116

*The reason why the total is more than the number of cases is that in some cases there is more than one injury site.

It was observed that the majority of life-threatening cases (n: 13) were caused by traffic accidents. When traffic accidents were evaluated individually, it was seen that the majority of them were non-vehicular traffic accidents (n: 16) (Figure 1). It was observed that traffic accidents were most common in the 65-74 age group (n: 20).

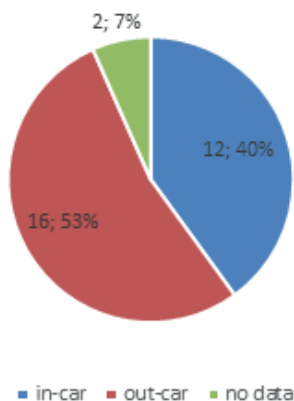


Figure 1. Traffic accident types

It was observed that there was a life-threatening situation in 22 of the cases, it was not in 34 cases, and in 16 cases the injury was mild enough to be resolved with simple medical intervention, and in 40 cases it was not so mild that it could be resolved with simple medical intervention (Table 4).

Table 4. Simple medical intervention and life-threatening correlation

		Simple medical intervention		Total
		Not necessary	Necessary	
Life threatening	Exist	0	22	22
	Absent	16	18	34
Total		16	40	56

When the cases are evaluated in terms of fixed scars on the face; It was determined that 1 person had a fixed scar on the face (1.8%), 45 cases did not have a fixed scar on the face (80.4%), and 10 cases were called for a follow-up examination but did not come for a check-up. When the cases were evaluated in terms of whether sensory-organ weakness occurred or not, it was seen that there was no sensory-organ weakness in 30 cases, 25 cases were called for a control examination for re-evaluation but did not come for control, and sensory-organ dysfunction was reported in 1 case (Table 5).

Table 5. Sense-organ weakness

	n	%
Negative	30	53.6
Loss of sense-organ function	1	1.8
Control	25	44.6

DISCUSSION

In our study, which was carried out with the aim of taking precautions against the characteristics of trauma in the elderly

and these types of trauma, 56 cases aged 65 and over, for whom forensic reports were prepared in a period of 8 years, were examined.

In our study, the number of male cases was found to be higher, consistent with other similar studies [4,10-13]. We think that the reason for this is that the applications made to us requesting a final report are mostly traffic accidents and the majority of vehicle drivers are men [13].

In our study, it was observed that the number of cases in the early senescence stage was higher than in other stages. When looking at the literature, it was seen that similar results were obtained [4,12,13,14]. We think that this is because patients in the early senility phase are more mobile than other age groups, participate more in social life, and are therefore more exposed to external factors.

It is observed that the majority of trauma cases in people older than 65 years are caused by traffic accidents (53.6%). Consistent with the literature, traffic accidents are the leading cause of trauma [4,10,12,13,14,15]. It was thought that the slowdown in physiological functions of the elderly caused them to be vulnerable in traffic accidents.

When we look at the types of incidents, it can be seen that the majority of traffic accidents are followed by violent actions and falls. When the literature is scanned, in a similar study conducted by Güler et al. in 2020, it was found that the majority of the cases were between the ages of 65-74 and the majority were men, traffic accidents were the most common cause of trauma, and when traffic accidents were evaluated in themselves, non-vehicle accidents were the majority; similarly, in our study; It was observed that men were the majority in trauma cases over the age of 65, the most common cause was traffic accidents, and when traffic accidents were evaluated within themselves, non-vehicular accidents were the most frequently recorded [12]. It is noteworthy that in other studies in the literature, falls are in the second place, and in some cases, effective action events come second [4,10,13,14]. Considering that the elderly spend more time at home than outside and that the home design is not suitable for the elderly, it is inevitable that there will be more fall cases than assault events.

As a result of our study; in injury cases over the age of 65, it varies from event type to event type, but when all event types are evaluated together, it is seen that the most affected area is the head and neck. It is known that injuries in the head and neck area can cause permanent disabilities, and injuries in the facial area can cause permanent scars and permanent changes on the face. According to Article 87 of the Turkish Penal Code, one of the issues that should be taken into consideration in these cases is whether the injury causes permanent scars on the face [16]. In the literature review, it was seen that there are studies showing that the head, neck and extremities are the most frequently injured trauma areas [3,10,13,15]. The reason for the frequency of head and neck injuries was evaluated as not fastening the seat belt in

in-vehicle traffic accidents and loss of head control after high-energy trauma, and the reason for the frequency of extremity injuries, which include the longest bones in the skeletal system, was evaluated as the decrease in reflex responses and osteoporosis with advanced age in out-of-vehicle traffic accidents.

CONCLUSION

Considering that the most common cause of trauma in the elderly is traffic accidents, necessary arrangements should be made to prevent traffic accidents (pedestrian crossing markings, speed bumps, wide intersections, lighting, etc.), and it should not be forgotten that the elderly are also a part of the society and therefore the traffic. In accordance with the 1st and 2nd paragraph of Article 87 of the Turkish Penal Code, care should be taken to keep careful and detailed records, especially in head-neck and facial injuries, in order to clarify whether the injury is a permanent scar or a permanent change on the face. In order to reduce material and moral losses due to trauma, ergonomic designs that will make the lives of the elderly easier in daily life should be used (carpet stabilizers, door handles, etc.) and space-oriented solutions should be preferred.

Conflict of Interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical Approval

Approval was obtained from the Scientific Research and Publication Ethics Committee of İnönü University on 12.12.2023 with the decision number 2023/5372.

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