

The real victims of the Islamic Feast of Sacrifice: injuries related to the sacrifice

Kurban bayramının gerçek kurbanları: Kurban kesimi ile ilişkili yaralanmalar

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BACKGROUND

During the Feast of Sacrifice in Muslim countries, thousands of animals are slaughtered every year. Many injuries occur during the sacrifice. Thus, the aim of this study was to determine the demographic characteristics of patients, their slaughtering experience, types of injury, and related hospital costs.

METHODS

This prospective observational study was conducted in Emergency Departments (EDs) of Gazi University and Ankara Training and Research Hospital. One hundred and twenty adult patients were admitted to EDs with injuries related to the slaughter and processing of meat during two consecutive Feasts of Sacrifice.

RESULTS

The average age of patients was 41.85±13.6, and 101 patients (84.2%) were male. One hundred sixteen patients (96.7%) were not professionals. Ninety-seven patients (80.8%) were admitted to EDs on the first day of the feasts. Ninety-nine injuries (82.5%) were related to cutting tools, and 21 patients (17.5%) were admitted with complaints of either falling or being harmed by animals. Fourteen patients (11.7%) with tendon lacerations, finger amputations, extremity fractures, and eye traumas were taken into surgery. Hospital costs were a median 104.76 [67.48-322.12] Turkish Liras (74.30 [47.86-228.45] USD).

CONCLUSION

Proper conditions for slaughter should be provided and professionals should perform the slaughter and/or processing of the meat. EDs should be supplied both more equipment and physicians, especially on the first days of the feast.

Key Words: Feast of sacrifice; injury; slaughter.

AMAÇ

Müslüman ülkelerde her yıl hac ayında kurban bayramı kutlanır ve bu bayramda binlerce hayvan kesilir. Gerek hayvanın kesimi, gerekse etin işlenmesi sırasında çok sayıda ve çeşitte yaralanmalar meydana gelmektedir. Çalışmanın amacı, hayvan kesimi ile ilişkili yaralanma ile başvuran hastaların, demografik özelliklerini, hayvan kesimi deneyimlerini, yaralanma tiplerini ve hastane tedavi maliyetini saptamaktır.

GEREÇ VE YÖNTEM

Ankara'da Gazi Üniversitesi Tıp Fakültesi ve Ankara Eğitim ve Araştırma Hastanesi Acil Servislerinde yapılan prospektif gözlemsel bir çalışmadır. İki kurban bayramı süresince acil servise hayvan kesimi ve et işlenmesi ile ilişkili yaralanma şikayetiyle başvuran ve çalışmaya katılmayı kabul eden 17 yaş üstü erişkin 120 hasta alındı.

BULGULAR

Hastaların yaş ortalaması 41,85±85 ve 101'i (%84,2) erkekti. Yüz on altı hastanın (%96,7) hayvan kesimi ve et işleme için yeterli deneyimi yoktu. Hastaların 97'si (%80,8) bayramın ilk günü başvurdu. Yaralanmaların 99'unun (%82,5) kesici alete bağlı, 21'inin ise (%17,5) düşme, boynuzlanma veya tekmelenme ile gerçekleştiği görüldü. Tam tendon kesisi, parmak amputasyonu, ekstremitte kırıkları ve göz travması olan 14 (%11,7) hasta ameliyata alındı. Ortanca 104,76 (67,48-322,12) Türk Lirası (74,30 [47,86-228,45] USD) hastane tedavi maliyeti saptandı.

SONUÇ

Kurban kesimi için uygun koşullar hazırlanmalı, profesyonel kişilerce kesimlerin yapılması sağlanmalı, özellikle kurban bayramının ilk günlerinde acil servisler hem ekip, hem de malzeme yönünden takviye edilmelidir.

Anahtar Sözcükler: Kurban bayramı; yaralanma; kurban kesimi.

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Every year, during the month of the pilgrimage to Mecca (Hajj), the Feast of Sacrifice is celebrated in all Muslim countries. During the first three days of this feast, thousands of sheep, goats, cattle, and camels are sacrificed.^[1,2] In a majority of cases, people slaughter the animals themselves in their backyards or on the streets during the first day of the feast. Most of these slaughters are performed by people who are not adequately experienced to do the actual work, and other inexperienced family members assist in the butchering process as well.^[1,3] As a result, a variety of injuries occur during the Feast of Sacrifice while either slaughtering the animals or processing the meat.

The aim of this study was to determine the demographic characteristics and experiences of those slaughtering the animals, the types of injury and the hospital costs of treatment for those who, having been injured during the slaughter and/or processing of meat, were subsequently admitted to the emergency departments (EDs) of two hospitals located in downtown Ankara.

Table 1. Characteristics of the patients

| Characteristics | n (%) |
|--|------------|
| Sex | |
| Male | 101 (84.2) |
| Female | 19 (15.8) |
| Age ± SD* (year) | |
| Male | 41.62±13.7 |
| Female | 43.10±13.7 |
| Hospital | |
| Gazi University Hospital | 26 (21.7) |
| Ankara Training and Research Hospital | 94 (78.3) |
| Educational background | |
| Illiterate | 1 (0.8) |
| Primary School | 81 (67.5) |
| High School | 21 (17.5) |
| University | 17 (14.2) |
| Place of injury | |
| Household | 54 (45.0) |
| Backyard/park | 58 (48.3) |
| Quarter/street | 4 (3.3) |
| Municipality place | 3 (2.5) |
| Slaughterhouse | 1 (0.8) |
| Slaughter experience of the injured person | |
| Butcher | 4 (3.3) |
| Only during the feasts | 98 (81.7) |
| First time | 18 (15.0) |
| Type of animal slaughtered | |
| Sheep/goat | 39 (32.5) |
| Cattle | 81 (67.5) |

*Standard Deviation.

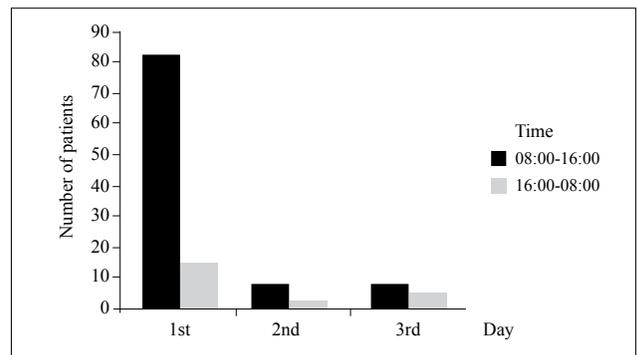


Fig. 1. Admittance days and hours of patients to the emergency departments.

MATERIALS AND METHODS

This study is a prospective observational study conducted in the EDs of Gazi University, Faculty of Medicine and Ankara Training and Research Hospital, Ministry of Health, both located in downtown Ankara. We obtained the required Ethics Committee approval from both hospitals. One hundred and twenty adult patients who were 17 and over were admitted to the EDs of these two hospitals with complaints of injuries related to the slaughter and processing of meat during two consecutive Feasts of Sacrifice. All patients consented to participate in the study and the dates of their admittance were as follows: January 10-12, 2006 (Feast 1); and December 31, 2006, January 1-2, 2007 (Feast 2). As the slaughter takes place during the first three days of the feast, the fourth day was not included in the study; according to Islamic teaching, sacrifice is lawful during the first three days of the feast.^[4] All data regarding patients' age, sex, experience in slaughtering animals, educational background, time/place/mechanism/type of injuries, and the patients' treatment and hospital bills were examined. Frequency and descriptive analysis of the data was performed through a computerized environment via SPSS 11 program. Hospital cost data were not normally distributed so it was expressed as median [25-75 percentiles].

RESULTS

A total of 120 patients were included in the study (54 in the first year and 66 in the second year, who admitted to the EDs of the two hospitals during the first 3 days of 2 consecutive Feasts of Sacrifice). The average age (SD) of the patients was 41.85±13.6 and 101 patients (84.2%) were male. Eighty-one patients (67.5%) had a primary education background. One hundred and sixteen patients (96.7%) were not professionals in the slaughtering and meat processing business. Only 4 patients (3.3%) were butchers (Table 1). Ninety-seven patients (80.8%) were admitted to the EDs on the first day of the Feasts of Sacrifice (Fig. 1). While 99 of the injuries (82.5%) were related to some type of cutting tool, 21 patients (17.5%) were

Table 2. Characteristics of the injuries and treatments

| | n (%) |
|---|------------|
| Mechanism of the injury | |
| Cutting tools | 99 (82.5) |
| Falling | 8 (6.7) |
| Pushed with the horn | 7 (5.8) |
| Kicked by the animal | 6 (5.0) |
| Type of the injury* | |
| Skin cut/abrasion | 107 (89.2) |
| Tendon laceration | 30 (25.0) |
| Soft tissue trauma | 15 (12.5) |
| Head trauma | 5 (4.2) |
| Chest trauma | 1 (0.8) |
| Extremity injury (fracture, dislocation, amputation) | 10 (8.3) |
| Vein nerve injury | 5 (4.2) |
| Maxillofacial and eye trauma | 1 (0.8) |
| Treatment** | |
| Primary suture | 99 (82.5) |
| Cast/splint | 33 (27.5) |
| Surgery | 14 (11.7) |
| Result | |
| Discharged from the hospital | 105 (87.5) |
| Hospitalized | 12 (10.0) |
| Transferred to another hospital | 3 (2.5) |

* Involves patients with multiple injuries; ** Involves multiple treatment methods in a patient.

admitted with complaints of falling, being pushed with horns or being kicked by the animals. Thirty patients (28%) had partial or complete tendon lacerations. Fourteen patients (11.7%) with complete tendon lacerations, finger amputations, extremity fractures, or eye traumas were taken into surgery. Patients having head and chest injuries did not require surgery. Three patients needing surgery were transferred to other hospitals upon personal requests (Table 2). When hospital bills of 118 patients were examined, it was observed that hospital costs for the treatment of patients were a median 104.76 [67.48-322.12] Turkish liras (74.30 [47.86-228.45] USD).

DISCUSSION

Animal sacrifices have long been a common practice in almost all religions since the beginning of mankind.^[5] Millions of animals are slaughtered every year during the Feast of Sacrifice celebrated during the Hajj period by Muslims throughout the world.^[2] In Turkey, thousands of animals are also slaughtered during the Feast of Sacrifice, and as a result, hundreds of people are injured and require medical attention in the ED.

According to Islamic doctrines, it is believed that the sacrifice is most sacred if the animal is slaughtered on the first day of the feast by the owner, and it is rec-

ommended that the slaughter is performed during the daytime.^[4,5] For this reason, animals are slaughtered intensively on the first day and thus the majority of injuries are seen on that day.^[1] The two previous studies regarding hand injuries during the Feast of Sacrifice revealed that 64% and 73% of the patients were admitted to hospitals early on the first day of the feast.^[2,3] In our study, the number of patients admitted to the hospitals on the first day of the feasts was found at an even higher rate of 80.8%. As the earlier studies included only hand injuries, our rate of admission was found higher because other injuries related to the animal slaughter, such as falling, being pushed with horns, and being kicked by the animals were also included in our study.

The slaughter is generally performed by the man of the household. The rest of the family also assists the man of the household with the slaughter, and the woman of the household takes part in breaking the meat into pieces. Nevertheless, the slaughter and cutting of the animals is primarily the man's responsibility and as such, the ratio of men affected by the slaughter was found high in two studies, as 81% and 86%.^[1,3]

As people prefer to perform the slaughter on the first day of the feast, they cannot find enough professional butchers and the slaughter is thus generally performed by inexperienced people. In three distinct previous studies regarding hand injuries during the Feast of Sacrifice, the studies revealed that the slaughter was overwhelmingly performed by inexperienced people. The ratios of inexperienced to experienced butchers were 81%, 86% and 94%.^[1-3] Similarly, in this study, it was found that the majority of people were quite inexperienced in terms of slaughtering and breaking the meat into pieces (Table 1). Slaughtering by inexperienced people not only results in injuries but also leads to animals suffering unnecessarily. This is inhumane and unacceptable with regard to animal rights.

Moreover, due to the intensity of slaughter performed on the first day of the feast, people have difficulties finding appropriate places like slaughterhouses to perform the slaughter. As a result, they slaughter in non-hygienic places, such as streets or backyards, where there is no safety equipment and none of the required tools. This exacerbates the situation by increasing the likelihood of injuries and also introducing a risk factor for infectious diseases such as food poisoning. In this study, it was found that only a small portion of the slaughters were performed in appropriate places (Table 1).

The cause of injury in most cases is by some type of cutting tool. It was observed that hand injuries such as skin cuts, tendon lacerations and finger amputations were the most frequent types of injury. 11.4% of the

patients had to undergo surgery (Table 2). In a study carried out in a meatpacking plant, it was found that 60.8% of the workers had finger injuries, 12.9% hand injuries, 14.7% forearm injuries, 6% head injuries, and 5.4% lower extremity injuries. It was observed that those working without any protective equipment were subjected to more injuries at a higher rate.^[6] Inadequate equipment and inappropriate techniques, particularly during the slaughter of cattle, lead to injuries related to falling, being pushed with the horns, or being kicked by the animal. Not only is the person slaughtering affected, but people who help in the process also receive their share of injuries. In the literature, it is reported that there have been incidents such as ventricular septal defect related to being kicked by cattle, eye injuries related to being assaulted by the horns of an animal, head and chest traumas, and extremity injuries.^[7-10] In our study, it was observed that while one patient, who had been injured during the slaughter of the cattle and taken into surgery, had suffered from eye trauma, the other patient had suffered tibia and fibula fractures. It would be especially advisable to have the slaughter of cattle done by professionals to reduce/prevent all these injuries.

It may be predictable that patients would be subjected to huge economic losses if both their time spent at the hospital and in the treatment and rehabilitation period after treatment were taken into consideration. With regard to economic losses, it is inevitable that these injuries would result in considerable treatment costs and employment loss nationwide. However, no reliable data regarding injuries in Turkey related to the sacrifice of animals are available. This study may both contribute to determining types of injury, treatment, results, and total economic costs of injuries related to the Feast of Sacrifice in Turkey, as well as initiate further studies regarding measures to be taken during the feast.

As the Feast of Sacrifice is an official holiday, while some families go to suburban areas for their holiday, others prefer traveling to touristic areas. Thus, it is observed that there is traffic congestion on highways during these holidays and an increase in the number of fatal traffic accidents.^[11] Both the increase in accidents and the closing of outpatient clinics at least four days during the feast contribute to the increased workload of the EDs on these days. It is obvious that there would be an increase in admissions to the EDs, especially on the first day of the feast, when people with injuries related to slaughter present to the EDs.

There are some limitations to this study. Given the

fact that there is a high population movement during the feast and surgical patients are treated in the relevant units of the hospital, emergency physicians did not follow up the patients. Three patients needing surgeries were transferred to other hospitals upon their requests because of social security insurance problems, and some of the patients preferred another university or private hospitals. The hospital costs and employment losses during the follow-up and rehabilitation period, however, were not included. Even though accidents related to the sacrifice of animals are nationwide incidents, this observational study is limited to only two hospitals in Ankara.

In conclusion, local administrations should provide proper conditions for slaughter, ensuring that the slaughter is performed by professionals, and the public should be better informed and trained for the slaughtering process. Moreover, in Muslim countries like Turkey, where slaughter is intensively practiced, EDs should be supplied with more equipment and staffed with more physicians, especially on the first days of the Feast of Sacrifice.

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