A periodical increase in hand injuries: The sacrifice feast

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ABSTRACT

Objective: As an Islamic ritual, every year during the celebration of the Sacrifice Feast, animals, like cows, sheep or goats, are sacrificed and their meat donated to poor people. In this study, we present the cases of hand injuries that occurred during the Sacrifice Feast, along with their corresponding etiological and demographic information, and evaluate the surgical management of these hand injuries.

Methods: 62 patients, who were referred to the Hand Surgery Division of our Plastic, Reconstructive and Aesthetic Surgery Department from the emergency room between 15-18 October 2013 and 04-07 October 2014, were included in our study. A total of 62 patients were classified and evaluated according to age, gender, etiology, date of injury, hand lateralization, injury type, level of injury and type of anesthesia.

Results: All 14 female patients (100%) were injured by knives. A total of 7 of 13 pediatric patients (53.8%) were injured from meat grinders. Thirteen patients were injured by cleavers; all of them (100%) were male and were injured on the first day of the feast. A total of 47 of 62 patients (75.8%) and 45 of 48 male patients (93.7%) were injured on the 1st day of the feast. A total of 12 of 14 female patients (85.7%) were injured on the 2nd, 3rd and 4th days of the feast. A total of 39 of 62 patients (62.9%) injured their nondominant hands. Isolated tendon injuries were the most common injury type (29%).

Conclusion: Although festivals are celebrated with much enthusiasm, carelessness or neglect may lead to undesirable results. Keeping children away from danger should be made a top priority during Sacrifice Feasts. In addition, not only should precautions be more intensively emphasized by the written and visual media, but special regulations should be implemented involving the transporting of amputated limbs. Furthermore, in some regions, many people, who are inexperienced butchers, sacrifice animals themselves, leading to numerous hand injuries. Consequently, in order to reduce the number of these hand injuries, animals should only be sacrificed by professionals.

Key words: Feast of sacrifice, hand injuries, sacrifice feast, traditional

Introduction

As an Islamic ritual, every year during the celebration of the Sacrifice Feast, animals, like cows, sheep or goats, are sacrificed and their meat donated to poor people. The feast takes place over a 4-day period. Numerous hand injuries occur during meat processing from slaughter to cooking. Some of these injuries are simple soft tissue injuries; however, others involve amputations, combined with vascular and nerve damage.

In this study, we present the hand injuries that occurred during the Sacrifice Feast, along with their etiological and demographic information, and evaluate the management of these injuries in terms of hand surgery.
Materials and Methods

A total of 62 patients, who were referred to the Hand Surgery Division of our Plastic, Reconstructive and Aesthetic Surgery Department from the emergency room between 15-18 October 2013 and 04-07 October 2014, were included in our study. All injuries were related to the Feast of the Sacrifice. Hand injuries due to traffic accidents, burn injuries and industrial accidents during this period were excluded from the study. A total of 62 patients were classified and evaluated according to age, gender, etiology, date of injury, hand lateralization, injury type, level of injury and type of anesthesia. All patients were operated on the day of the injury.

Results

Patients presenting in the emergency room with hand injuries suffered during the Feast of the Sacrifice were assessed. Thirteen patients (20,9%) were under 18 years of age and only 2 of 62 patients (3,2%) were over 65 years of age (Table 1). A total of 48 of 62 patients (77,4%) were male and 14 of 62 patients were female (22,5%) (Table 2). All 14 female patients (100%) were injured by knives. A total of 7 of 13 pediatric patients (53,8%) were injured from meat grinders. Thirteen patients were injured by cleavers; all of them (100%) were male and were injured on the first day of the feast (Table 3). A total of 47 of 62 patients (75,8%) were injured on the 1st day of the feast and 15 of them (24,1%) were injured on the other days of the feast. A total of 45 of 48 male patients (93,7%) were injured on the 1st day of the feast, while 12 of 14 female patients (85,7%) were injured on the 2nd, 3rd and 4th days of the feast, with 2 of them (14,2%) being injured on the 1st day (Table 4). A total of 23 of 62 patients (37%) were injured on their dominant hand, whereas 39 of them (62,9%) were injured on their nondominant hand (Table 5).

Isolated tendon injuries were the most common injury type (29%), followed by amputations (20,9%) and soft-tissue injuries (16,1%) (Table 6). Patients were classified into the following groups, or levels, according to the location of their injuries: fingers (from the fingertip to the metacarpophalangeal joint), hand (from the metacarpophalangeal joint to the carpometacarpal joint), wrist (between the carpometacarpal joints and the distal radioulnar joint), and forearm (from the distal radioulnar joint to the elbow) (Table 7).

All patients were operated on the same day that the injuries were sustained.
injury occurred. A total of 41 patients (66.1%) were operated upon under local anesthesia, 5 (8%) were operated upon under axillary blockage and 16 (25.8%) were operated upon under general anesthesia (Table 8). All patients received antibiotics and analgesics post-operatively and dense physiotherapy following the operation.

Discussion

Every year during the Feast of the Sacrifice, many animals are sacrificed as a religious ritual. During the sacrificing and processing of meat, a large number of hand injuries occur [1], with an age range of 3-67 years being reported in the literature [2]. In our study, most of the patients suffering injuries (56.4%) were between the ages of 25 and 65 years. Only 2 patients (3.2%) were more than 65 years of age. We attribute this finding to the younger population playing a more active role in the sacrificial activities. According to the literature, 86% of the patients that were injured were male [2]. We found a similar trend in our study in which male injuries (77.4%) greatly outnumbered female injuries (22.5%). This finding is also attributed to the male population playing a more active role than females in the sacrificial activities.

In the Sacrifice Feast, the most common cause of injuries results from the use of knives. According to the literature, the rates of knife injuries are reported to be as high as 88% and 97.5% [1-3]. In our study, knife injuries were found to be the greatest cause of the hand injuries, with a rate of 50%.

According to our data, all 14 female patients (100%) were injured by knives, which may be caused by females taking a more active role in processing the meat rather than in sacrificing the animals. Seven of 13 pediatric patients were injured due to “meat grinder”. And 70% of all meat grinder injuries (7/10) were pediatric age. The Feast of the Sacrifice takes place in an enthusiastic but chaotic environment. We attributed these injuries to this kind of environment and the inquisitive personality of children. A total of 13 patients were injured by cleavers; all of them (100%) were male and the injuries occurred on the first day of the feast. Cleavers, which are used for splitting bones, require strength when used, so cleaver-related injuries are more common in males. The injury type in the Sacrifice Feast differs compared to other situations, because apart from the feast, it is reported that the most common cause of amputation injuries result from crush injuries [4]. A total of 47 of 62 patients (75.8%) were injured on the 1st day of the feast, which is associated with the most intense day of meat processing, while 15 of the patients (24.1%) were injured on the other days of the feast. Sarıfakıoğlu et al. reported that most female patients suffered injuries after the 1st day, whereas male patients mostly suffered injuries on the 1st day [1]. Similarly, in our study, 45 of 48 male patients (93.7%) were injured on the 1st day of the feast, whereas 12 of 14 female patients (85.7%) were injured after the 1st day. This finding is due to the fact that the most intense activity of sacrificing the animals occurs on the 1st day of the feast, with males taking a more active role during the slaughtering process on this day. However, on the other days of the feast, processing, chopping and cooking the meat primarily occur, so females are more active during these days.

Although several studies have shown that left hand injuries are apparently more frequent than right hand injuries [1,3], Avşaroğulları et. al. reported that right and left hand injuries occurred with equal frequency [2]. In our study, 39 of 62 patients (62.9%) were injured on their nondominant hands. This result is expected, because while sacrificing animals, the dominant hand holds the knife so that the more vulnerable nondominant hand is inevitably injured. According to the literature, the most frequent type of injuries to the hand are simple lacerations and soft-tissue injuries [1, 2]. However, isolated tendon injuries were the most commonly seen injury type among our cases (29%). This contradictory finding with the literature is because only selected patients were referred to our hand surgery division from the emergency room, resulting in fewer cases of simple lacerations compared to isolated tendon injuries.

Sacrifice Feast-related injuries were most common at the finger level, with injuries occurring to tendons, nerves, and bones. However, at the hand and wrist level, neurovascular injuries were more prominent. Our 2 patients who suffered injuries at the forearm level in-
cluded muscle injuries. Our data is consistent with the literature, for according to the study of de Jong et al., 82% of all hand and wrist injuries are located on a finger [5].

In our study, 41 patients (66.1%) were operated upon under local anesthesia, 5 (8%) were operated upon under axillary blockage and 16 (25.8%) were operated upon under general anesthesia. We recommend using the least invasive method regarding the administration of anesthesia.

In our study, data concerning the educational status of the patients were not collected, which may be one of the limitations of our study. Further studies may show if there exists a relationship between educational status and injury rate and also whether professional butchers are injured less compared to those who are inexperienced with butchering activities.

Although festivals are celebrated with much enthusiasm, carelessness or neglect may lead to undesirable results. Keeping children away from danger should be made a top priority during Sacrifice Feasts. In addition, not only should precautions be more intensively emphasized by the written and visual media, but special regulations should be implemented involving the transporting of amputated limbs. Furthermore, in some regions, many people, who are “inexperienced butchers”, sacrifice animals themselves, leading to numerous hand injuries. Consequently, in order to reduce the number of these hand injuries, animals should only be sacrificed by experienced professionals.

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