Retrospective Analysis of Patients Whose Plastic Surgery Consultations Requested were in a University Hospital Emergency Room

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Abstract

Objective: Patients for whom emergency department physicians in a University Training and Research Hospital asked for plastic surgery consultation were evaluated retrospectively.

Material and Methods: Data files were reviewed for patients who were admitted for trauma and for whom a plastic surgery consultation was requested over a four year period (January 2007-January 2011).

Results: It was determined in the study group that the majority of cases were male patients (70.8%, n=807). Injuries from piercing-cutting objects were found to be the most common; this was followed by work and traffic accidents, respectively. Consultation was often requested between 20:00 and 24:00 (n=495, 43.4%). When the injury regions were examined, the region that was most commonly injured was identified to be the upper extremity (n=849, 74.5%). This was followed by the head and neck region (n=236, 20.7%), lower extremities (n=39, 3.4%) and the body (n=16, 1.4%). It was found that consultations were often carried out for tendon injuries caused by piercing-cutting objects in the upper extremity, and cases were mainly from the paediatric age group in consultations requested due to facial injuries.

Conclusion: The team in the emergency department should be composed of people with specialised training in the field of emergency medicine or receiving this training. Aleviating the concerns of a family may reduce improper consultation requests. *(JAEM 2014; 13: 18-21)*

Key words: Emergency service, consultation, plastic surgery, hand injuries

Introduction

Consultation services form an important part of emergency services, and the responsibility of the emergency physician ends only when the patient's responsibility is assumed by another physician (1).

One of the most common departments where the physicians working in emergency rooms request consultation for trauma patients is plastic surgery. In varying rates, depending on the characteristics and functioning procedures of hospitals, plastic surgery physicians may be consulted about the patients with trauma cases, hand injury cases, cases of burns, decubitus ulcers, diabetic foot, etc.

In this study, patients for whom emergency department physicians working at Pamukkale University Training and Research Hospital requested plastic surgery consultation and collected data for this group of patients were studied retrospectively. This has not been the subject of research previously.

The demographic characteristics of the patients, their reasons for consultation and the time for the request were investigated.

Material and Methods

The patients who referred to Pamukkale University Training and Research Hospital emergency department because of trauma, in the four year period between January 2007 and January 2011, and for whom plastic surgery consultation was requested were evaluated retrospectively. A list of all the patients who referred to the emergency service, and for whom plastic surgery consultation was requested was made using the hospital's computer data systems.

Socio-demographic data, consultation request time and reasons for consultation, final diagnosis and treatment data were obtained from the patient files. All adult and pediatric patients fulfilling the study criteria were included in the study. Patients whose data was

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missing from the hospital files, and who left the emergency room voluntarily without waiting for the plastic surgery consultant doctor were excluded from the study.

Statistical Analysis

All data obtained from this study was recorded in the standard program named "Statistical Package for Social Sciences for Windows 11", and were assessed. Quantitative variables were indicated as mean±SD (standard deviation), and categorical variables were summarized as number and percent.

Results

During the period between 2007 and 2011, the number of patients refering to the emergency department and for whom plastic surgery consultation was requested was identified as 1426. Of these patients, 159 (11.1%) were excluded from the study because of missing data in their hospital files, and 127 (8.9%) were excluded since they left emergency department voluntarily before the consultant physician arrived. The remaining 1140 patients constituted our study group. The majority of cases in the study group were determined to be male (70.8%, n=807).

It was found that the average age of the patients was 27.3±7.7 years (min: 2 max: 64); the average age of men was 29.4±9.2 while the average age of women was 19.4±6.1. These differences were statistically significant (p<0.001). 63% of the cases (n=718) were forensic cases. Cases were classified according to the etiology of injury.

Injury with piercing-cutting objects was determined to be the first (31.6%, n=361), and this was followed by work and traffic accidents, respectively (Table 1).

While 695 patients (61.0%) were released from the emergency service after treatment, 387 (35.9%) patients were hospitalized. The remaining 58 (5.1%) patients were either those for whom consultation from other departments was requested,or who left the emergency department voluntarily.

When consultation request times were analyzed, most of the consultation was determined to occur at hours between 20:00 and 24:00 (n=495, 43.4%). It was determined that consultation was requested most frequently between 21:00 and 21:59 (n=118, 10.4%) (Figure 1).

When the areas of injury were analyzed, the most commonly injured area was determined to be the upper extremity (n=849, 74.5%). This was followed respectively by the head and neck (n=236, 20.7%), the lower extremity (n=39, 3.4%) and the body (n=16, 1.4%). The reason for consultation in cases of head and neck injuries was mainly the facial lacerations (n=192, 81.3%). It was found that the most common laceration area was the lip (n=72, 37.5%), followed respectively by the forehead (n=51, 26.5%) and the chin (n=33, 17.2%). In this group, 28 (14.6%) cases had lacerations on their eyelids, and 8 (4.2%) patients had lacerations on their ears. Interestingly, the majority of patients for whom consultation was requested due to face lacerations (n=158, 82.3%) were determined to be in the pediatric age group (16 years<). In 44 of the 236 patients (18.6%) with head and neck injuries, maxillofacial fractures were identified. In these cases, mandibular (n=19) and maxillary (n=11) fractures wer in the first two places. In patients for whom the lower extremity consultation was requested the most common reason was diabetic foot (n=19, 48.7%). Patients with deep lacerations and tissue defects (n=11, 28.2%) were in second place. The most common reason for consultation in the body was decubitus ulcers (n=12, 75.0%), and in 4 patients (25.0%) there was a laceration on the back.

Table 1. Classification of patients according to etiology

Etiology	N	%
Injury with drilling-cutter objects	361	31.7
Work-related accidents	228	20.0
Traffic accident	205	18.0
Falling	149	13.0
Blow	34	3.0
Other	163	14.3
Total	1140	100.0

Upper Extremity Injuries

Composing 2/3 of our study population (n=849, 74.5%), upper extremity injuries needed to be examined in detail. Males (n=645, 76.0%) were found to be in the majority, similar to our study group. The rate of the left side being affected (n=434, 51.1%) was found to be similar to the right side (n=415, 48.9%). Of all the upper extremity injuries, 73.5% (n=624) were determined to be in the fingers, 5.4% (n=46) in the hands, and 18.6% (n=158) in the proximal region of the wrist. In the remaining 21 cases (2.5%) multiple regions were affected.

175 of the total 624 patients with finger injuries had more than one finger injury (28.0%). In 449 cases,one finger was found to be affected (72.0%). In this group, the most commonly injured finger was found to be the second finger (29.2%). When all finger injuries were examined independently of the number of patients, second finger injuries were observed to form the largest group of injuries (30.8%). This was followed by third. finger (19.3%) and first finger (17.1%), respectively (Table 2).

40.2% of the patients with upper extremity injuries (n=341) were determined to have undergone tendon repair surgery. 156 of these cases (45.7%) had flexor tendon injury, and 185 (54.3%) had extensor tendon injury.

It was revealed that 19.1% of patients with upper extremity injuries (n=162) underwent laceration suturation only and were discharged from the emergency department.

Of the other patients, 39 (4.6%) had isolated nerve damage, and 31 (3.6%) had isolated bone fractures. 46 (5.4%) patients underwent replantation or revascularization. 230 (27.1%) patientswith upper extremity injuries had amputations and received stump repairs.

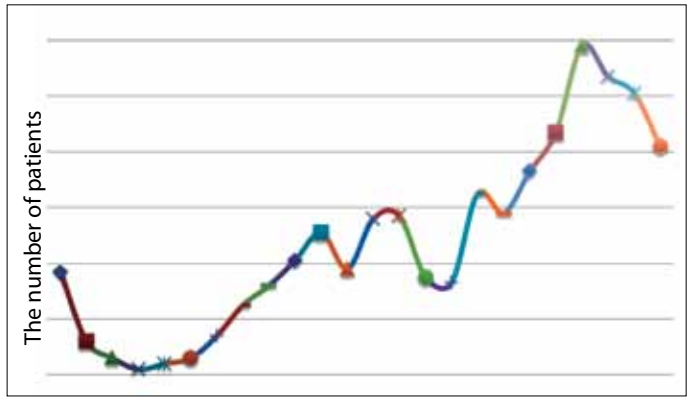

Figure 1. Consultation request hours

Table 2. The distribution and rates of finger injuries by location

Type of injury	1st finger n (%)	2nd finger n (%)	3rd finger n (%)	4th finger n (%)	5th finger n (%)
One finger (n=449)	78 (17.3)	131 (29.2)	91 (20.3)	79 (17.6)	70 (15.6)
More than one finger (n=353)*	59 (16.7)	116 (32.9)	64 (18.1)	73 (20.7)	41 (11.6)
Total (n=802)	137 (17.1)	247 (30.8)	155 (19.3)	152 (19.0)	111 (13.8)
* The number of total injured fingers in 175 patients with multiple finger injuries.					

Discussion

In this cross-sectional study, in which cases for whom emergency room physicians working in Pamukkale University Training and Research Hospital requested plastic surgery consultation, it was determined that consultations were carried out as a result of tendon injuries caused by piercing-cutting objects in upper extremity reigons, and that most of the cases for whom face laceration induced consultation was requested belonged to pediatric age group.

Nowadays, the number of areas of expertise is increasing parallel to the development of scientific knowledge. The emergency service is a separate discipline which directs all its energy and experience to this subject and is maintained by a specialized team. The team that will serve in the emergency department should consist of people who have received or are receiving specialized training in the field of emergency medicine (2). Despite the presence of provisions regarding consultations in the Emergency Medical Services regulations issued by the Ministry,each institution has its own configuration based on the facilities (3). Consultation can be described as the consultation of a doctor to the advice of colleagues from other specialties in the case where the physician primarily responsible for a patient,decides that it is necessary to consult the opinions and practices of colleagues from other specialties during the patient's treatment and monitoring (4). For diagnosis and treatment, physicians in each specialty area need the knowledge and technical support of other fields. For this purpose, inter clinical consultations are requested (5).

There are limited publications in the national literature related to the consultations requested from the emergency department. Cobanoglu and colleagues examined the breast surgery consultations requested by the emergency department, and Kiyan and colleagues analyzed the cardiology consultations requested by the emergency department (6, 7).

No publication directly investigating the plastic surgery consultations was found.

In our study, 70.8% (n=807) of patients for whom consultation was requested consisted of men. With the obvious male gender dominance in trauma patients referring to emergency service in domestic and foreign literature, rates ranged from 70% to 78% (2).

When the injury areas were analyzed,it was determined that the most common sites of injury for which plastic surgery consultation were requested by the emergency department were upper extremity injuries. This was followed by the head and neck, the lower extremities and body injuries, respectively. The reason for this high rate is that our clinic is 'the center' in nearby provinces and districts regarding hand surgery. In addition, in addition to our region being a textile and industrial area, the fact that the number of people engaged in agriculture is high increases the frequency of hand injuries.

The hand, and the upper extremity, is the part of our body that is most frequently exposed to trauma. It is the most active organ in our body in contact with the outside world and our daily lives. Nowadays, hand injury patients compose 20% of the patients referring to the emergency department because of trauma. (8). Upper extremity injuries are more common especially among males. With variable rates in studies,there is a consensus that the number of males is significantly higher (9). In our study, the rate of the left side being affected (51.1%) was found to be similar to the right side (48.9%). In the literature, the injury of the left or right side are reported to be almost equal, and are similar to our results (10)**.** The dominant hand carries more risk, but there are no adequate studies in the literature on this subject (11).

40.2% of the patients with upper extremity injuries underwent tendon repair operation. 45.7% of these cases had flexor tendon injury, and 54.3% had extensor tendon injury. The frequency of extensor tendon was highlighted also in the other studies. However, depending on the variations in the etiology of injury, this ratio can change (12).

In our study, in patients with head and neck injuries, after the facial lacerations, the maxillofacial fractures were identified as the second reason for consultation. In these cases, mandibular (n=19) and the maxillary (n=11) fractures were in the first two places. The most frequently identified fractures in patients with maxillofacial trauma are nasal and mandibular fractures (13). In a study done in our country, in maxillofacial trauma patients referring to the emergency department,maxilla fractures also took the first place (14). Since ear nose and throat (ENT) consultation was requested for nasal fractures in our services, nasal fracture cases were not included in our study.

Conclusion

It was determined that the patients for whom consultation was requested for head and neck injuries often had facial lacerations and were in the pediatric age group. In pediatric patients, besides the medical indication, the parents' anxiety that 'a scar may be left on the face' also plays a role in the reason why consultation is requested for the facial lacerations.The aleviation of concerns of the parents on this issue can reduce inappropriate concultation requests.

Ethics Committee Approval: Due to the retrospective nature of the study, ethics committee approval was waived.

Informed Consent: Due to the retrospective nature of the study, informed consent was waived.

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