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Plastik Cerrahi Tarafından Değerlendirilen Travma Hastalarının Etiyolojik ve Demografik Özellikleri

Etiological and Demographic Characteristics of Trauma Patients Evaluated by Plastic Surgery

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ÖZET

AMAÇ: Plastik rekonstrüktif ve estetik cerrahi travma hastalarının değerlendirilmesi ve tedavisinde önemli alanların başında gelir. İş kazalarının artışı, toplumun yaşlanması ile düşmelerin artışı ve günlük kullanıma giren makine ve aletlerin kullanım sıklığının artması travma insidansını arttırmaktadır. Bu çalışmanın amacı travma hastalarının demografik ve etiyolojik özelliklerini ortaya koymak ve plastik cerrahinin travma tedavisinde önemini vurgulamaktır.

GEREÇ VE YÖNTEM: Bu çalışmada 2018 kasım-2020 kasım arasında 2 yıllık süreçte plastik cerrahi tarafından değerlendirilen acil hastaları retrospektif olarak incelenmiştir. Hastaların yaş ve cinsiyet özellikleri kaydedilmiştir. Yaş grubu olarak 18 yaş altı pediatrik yaş grubu ve üstü erişkin yaş grubu olarak ayrılmıştır. Daha sonra klinik olarak hastalar el ve üst ekstremite travmaları ile maksillofasiyal travmalar (MFT) olarak ikiye ayrılmıştır. Daha sonra gruplardaki hastalar etiyolojik olarak ev kazaları, iş kazaları, düşmeler, trafik kazaları ve şiddet etiyolojisi olarak ayrılmıştır.

BULGULAR: Toplamda 3278 hasta çalışmaya dahil edildi. Bu hastaların 1327'si erişkin (898 erkek, 429 kadın) ve 1951'i pediatrik (1290 erkek,661 kadın) yaş grubundaydı. 1253 hasta (%38.2) el ve üst ekstremite travması, 2025 hasta (%61.8) MFT ile başvurdu. Erkek hastaların travma sonrasında acil servise başvurma oranı daha yüksek görüldü. Tüm hastalar içerisinde 1156 (%35.3) ev kazası, 1157 (%35.3) düşme, 402(%12.2) iş kazası, 318 (%9.7) trafik kazası ve 245 (%7.5) şiddet etiyolojisi saptandı. El ve üst ekstremite kazaları erişkin yaş grubunda daha sık görülürken, iş kazaları bu grubun büyük kısmını oluşturmaktadır. Çocuk yaş grubunda estetik ve fonksiyonel kaygıların daha fazla olması sebebiyle yüz bölgesindeki basit laserasyonlar bile plastik cerrahi tarafından değerlendirildiğinden bu grupta MFT daha sık görülmektedir. Şiddet etiyolojisi sıklıkla erişkin yaş erkek hastalarda görülmüştür.

SONUÇ: Travma hastaları plastik cerrahi acillerinin büyük bir kısmını oluşturur. Bu hastaların muayenesi ve ayrıntılı anamnezleri etiyolojiyi aydınlatmakta önemlidir. Erkek bireyler travma sonrasında daha fazla değerlendirilmektedir. Erişkin yaş grubunda iş kazaları el yaralanmalarında erkeklerde daha sıkken, kadınlarda ev kazaları sık görülmektedir. MFT daha sık çocuk hastalarda görülmektedir.

Anahtar kelimeler: Travma, şiddet, el ve üst ekstremite yaralanmaları, maksillofasiyal travma

ABSTRACT

AIM: Plastic reconstructive and aesthetic surgery is one of the important areas in the evaluation and treatment of trauma patients. The increase in work accidents, the increase in falls due to the aging of the society, and the increase in the frequency of use of daily machines and tools increase the incidence of trauma. The aim of this study is to reveal the demographic and etiological characteristics of trauma patients and to emphasize the importance of plastic surgery in trauma treatment.

MATERIAL AND METHOD: In this study, emergency patients evaluated by plastic surgeons during a 2-year period between November 2018 and November 2020 were retrospectively examined. The age and gender characteristics of the patients were recorded. Age groups are divided into under 18 years of age, pediatric age group and above adult age group. Then, clinically, the patients were divided into two groups: hand and upper extremity traumas and maxillofacial traumas (MFT). Patients in these groups are divided etiologically into home accidents, work accidents, falls, traffic accidents and violence etiology.

RESULTS: A total of 3278 patients were included in the study. 1327 of these patients were in the adult (898 men, 429 women) age group and 1951 were in the pediatric age group (1290 men, 661 women). 1253 patients (38.2%) presented with hand and upper extremity trauma, and 2025 patients (61.8%) presented with MFT. Male patients had a higher rate of applying to the emergency department after trauma. Among all patients, 1156 (35.3%) home accidents, 1157 (35.3%) falls, 402 (12.2%) work accidents, 318 (9.7%) traffic accidents and 245 (7.5%) violence etiologies were detected.While hand and upper extremity accidents are more common in the adult age group, work accidents constitute the majority of this group. Since aesthetic and functional concerns are greater in the pediatric age group, even simple lacerations in the facial area are evaluated by plastic surgery, and MFT is more common in this group. The etiology of violence was frequently seen in adult male patients.

CONCLUSION: Trauma patients constitute a large portion of plastic surgery emergencies. Examination and detailed anamnesis of these patients are important in elucidating the etiology. Male individuals are evaluated more after trauma. In the adult age group, work accidents and hand injuries are more common in men, while home accidents are more common in women. MFT is seen more frequently in pediatric patients.

Keywords: Trauma, violence, hand and upper extremity injuries, maxillofacial trauma

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INTRODUCTION

The incidence of trauma patients in society is increasing due to the rise in motor vehicle accidents, inadequacies in occupational safety, and many other factors. These injuries cause functional and aesthetic losses in individuals, reduce their quality of life, and consequently impose a socioeconomic burden on society and the state. The evaluation and treatment of these patients are therefore very important. Plastic surgery plays a crucial role in repairing hand and upper extremity injuries, maxillofacial traumas, and soft tissue injuries in any part of the body. It is also vital in treating damage to neurovascular structures, thanks to its microsurgical skills (1). For this reason, it has a critical role in the evaluation and treatment of all minor and major traumas.

There is insufficient data on trauma patients evaluated by plastic surgery in the literature. The aim of this study was to investigate the etiological and demographic characteristics of trauma patients evaluated by plastic surgery in a hospital with a high-level trauma centre.

MATERIAL AND METHOD

This study was approved by Non-interventional Clinical Researches Ethics Board of Hacettepe University Hospital (Project Number: GO21/147). The medical records of patients admitted to high level trauma centre between November 2018 and November 2020 were retrospectively analyzed and their etiological characteristics were determined. Age (0-18, over 18 years) and gender were used as demographic features when grouping the patients. Patients in each group were evaluated according to their etiological and clinical features. In clinical evaluation, trauma areas were divided into two main regions; hand-upper extremity trauma and maxillofacial trauma (MFT). Other trauma patients were not included in the study. Neurovascular injuries and tendon injuries in hand and upper extremity injuries were evaluated. Etiological features were categorized as accidents, violence, and falls. The place of occurrence of accidents was specified as work, home and traffic. Patients in the violence group were classified as domestic violence, assaults, gunshot wounds and suicide attemps. Those subjected to violence by relatives were categorized as domestic violence, while those attacked by strangers were included in the assault category. Self-harm was categorised as attempt to suicide. Regardless of violence type, injuries after firearm use were considered as a gunshot group. Information was collected about the clinical pictures and prognosis of the patients.

RESULTS

A total of 3278 patients admitted to our emergency service and evaluated by plastic surgery between November 2018 and November 2020 were included in the study. Of these, 898 (68%) were adult males, and 429 (32%) were adult females. Among pediatric patients, 1290 (66%) were male, and 661 (34%) were female. Male patients were statistically significantly more exposed to trauma than female patients ($p<0.05$). The mean age of adult male patients was 32 years, and the mean age of adult female patients was 36 years. The mean age of paediatric male patients was 8 years and the mean age of paediatric female patients was 7 years.

Table 1. Demographic Characteristics of Patients

	Male	Female	Total
Adults	898(41%)	429(39.4%)	1327(40.5%)
Pediatric	1290(59%)	661(60.6%)	1951(59.5%)
Total	2188(100%)	1090(100%)	3278(100%)

Among all patients, there were 245 (7.5%) in the violence group, 402 (12.2%) in the work accidents group, 1156 (35.3%) in the home accidents group, 318 (9.7%) in the traffic accidents group, and 1157 (35.3%) in the falling group

Table 2: Trauma Types and Etiologies of All Patients

	Hand and Upper extremity Trauma	MFT	Total
Violence	133(10.6%)	112(5.5%)	245(7.5%)
Work Accidents	332(26.5%)	70(3.5%)	402(12.2%)
Home Accidents	573(45.8%)	583(28.8%)	1156(35.3%)
Traffic Accidents	103(8.2%)	215(10.6%)	318(9.7%)
Falling	112(8.9%)	1045(51.6%)	1157(35.3%)
Total	1253(100%)	2025(100%)	3278(100%)

1. Adult Patients

There were 573 (63.8%) hand-upper extremity traumas and 325 (36.2%) maxillofacial trauma cases in adult male patients. In order of frequency, work accidents, home accidents, violence, and traffic accidents were found to be the etiology of patients admitted with hand trauma. Work accidents were statistically significantly higher as an etiology of hand trauma in adult male patients ($p<0.05$). In MFT patients, the etiological factors in order of frequency were falls, traffic accidents, and violence

Table 3: Trauma Types and Etiologies of Adult Male Patients

	Hand and Upper extremity Trauma	MFT	Total
Violence	85(14.8%)	59(18.2%)	144(16%)
Work Accidents	303(52.9%)	8(2.5%)	311(34.6%)
Home Accidents	152(26.5%)	3(0.9%)	155(17.3%)
Traffic Accidents	33(5.8%)	127(39%)	160(17.8%)
Falling	0	128(39.4%)	128(14.3%)
Total	573(100%)	325(100%)	898(100%)

In the evaluation of adult female patients, 278 (64.8%) had hand-upper extremity trauma, and 151 (35.2%) had MFT. The etiological characteristics of patients with hand trauma and maxillofacial trauma are given in

Table 4: Trauma Types and Etiologies of Adult Female Patients

	Hand and Upper extremity Trauma	MFT	Total
Violence	22(7.9%)	29(19.2%)	51(11.9%)
Work Accidents	15(5.4%)	4(2.7%)	19(4.4%)
Home Accidents	189(68%)	7(4.6%)	196(45.7%)
Traffic Accidents	38(13.7%)	44(29.1%)	82(19.1%)
Falling	14(5%)	67(44.4%)	81(18.9%)
Total	278(100%)	151(100%)	429(100%)

Home accidents were statistically significantly higher in hand injuries in female patients ($p<0.05$).

2. Pediatric Patients

Among male children, 284 (22%) presented with hand trauma, and 1006 (78%) presented with MFT. The etiological features of these patients are shown in

Table 5: Trauma Types and Etiologies of Pediatric Male Patients

	Hand and Upper Extremity Trauma	MFT	Total
Violence	19(6.7%)	15(1.5%)	34(2.6%)
Work Accidents	12(4.2%)	57(5.6%)	69(5.4%)
Home Accidents	152(53.5%)	364(36.2%)	516(40%)
Traffic Accidents	21(7.4%)	18(1.8%)	39(3%)
Falling	80(28.2%)	552(54.9%)	632(49%)
Total	284(100%)	1006(100%)	1290(100%)

In pediatric male patients, home accidents were statistically significantly higher in hand and upper extremity traumas, while falls were significantly higher in maxillofacial traumas (p<0.05).

Among female patients in the pediatric age group, 118 (17.9%) had hand trauma, and 543 (82.1%) had MFT. Etiological information is given in

Table 6: Trauma Types and Etiologies of Pediatric Female Patients

	Hand-Upper extremity Trauma	MFT	Total
Violence	7(5.9%)	9(1.6%)	16(2.4%)
Work Accidents	2(1.7%)	1(0.2%)	3(0.5%)
Home Accidents	80(67.8%)	209(38.5%)	289(43.7%)
Traffic Accidents	11(9.3%)	26(4.8%)	37(5.6%)
Falling	18(15.3%)	298(54.9%)	316(47.8%)
Total	118(100%)	543(100%)	661(100%)

In pediatric female patients, home accidents were statistically significantly higher in hand and upper extremity traumas, while falls were significantly higher in maxillofacial traumas (p<0.05).

3. MFT Patients

A total of 2025 MFT patients were admitted during the study period. The order of frequency was falls, home accidents, traffic accidents, violence etiology, and work accidents (Table 2). 76.5% of these patients were in the pediatric age group. The risk of maxillofacial trauma in the pediatric age group was 3.25 times higher than in the adult age group. While traffic accidents were the most common etiology of MFT in the adult age group, they were statistically significantly less common in the pediatric age group than in adults (p<0.05)

Among 2025 patients who underwent MFT, fractures were seen in 580 (28.6%). Fractures were present in 268 (17.3%) pediatric MFT patients. Fractures were seen in 312 (65.5%) adult MFT patients. The probability of fracture in the adult age group was statistically significantly higher than in the pediatric age group (p<0.05).

These fractures were classified as periorbital region, zygomaticomaxillary region, mandible, and nasal bone. A total of 729 maxillofacial fractures were seen in 580 patients. The most common fracture was in the nasal region (33.1%). The most common cause of fracture was falls (40%)

Table 7: Etiology of Fracture

	Region				
	Periorbital	**Mandible**	**Nazal**	**Zigomatic**	**Total**
Violence	6 (2.9%)	5 (2.8%)	47 (19.5%)	4(4.1%)	62 (8.5%)
Work Accidents	6 (2.9%)	7 (3.9%)	37 (15.4%)	15(15.5%)	65 (8.9%)
Home Accidents	66 (31.4%)	47 (25.9%)	59 (24.5%)	37(38.1%)	209(28.7%)
Traffic Accidents	11 (5.2%)	32 (17.7%)	42 (17.4%)	16(16.5%)	101(13.9%)
Falling	121(57.6%)	90(49.7%)	56 (23.2%)	25(25.8%)	292(40%)
Total	210(100%)	181(100%)	241(100%)	97(100%)	729(100%)

4. Hand and Upper Extremity Trauma Patients

A total of 1253 hand and upper extremity trauma patients were admitted during the study period. The order of frequency was home accidents, work accidents, violence, falls, and traffic accidents (Table 2). Of these patients, 67.9% were in the adult age group and 32.1% in the pediatric age group. Work accidents were statistically significantly higher in adult male patients compared to other groups (p<0.05). Among all hand injuries, 264 hand bone fractures were observed in 113 patients. 12% of the fractures were closed fractures. The incidence of fractures after work accidents was 23.9%. The incidence of fractures after work accidents was statistically significantly higher than home accidents (p<0.05).

There were 822 flexor zone injuries in hand traumas. The most common injuries were caused by work accidents. A total of 391 (47.6%) tendon or neurovascular injuries were seen. The most common injury was seen in work accidents. The frequency of tendon or neurovascular injuries was 62.1% in patients with violence. The probability of injury to deep structures in flexor zones was statistically significantly higher in violence patients compared to other etiologies (p<0.05).

A total of 643 extensor zone injuries were observed. Tendon or neurovascular structure injuries were present in 237 injuries (36.8%). The most common deep tissue injuries were seen in home accidents.

5. Violence Patients

A total of 245 patients were evaluated within the aetiology of violence

Table 10: Patients and Clinical Applications in All Violent Etiologies

	Hand and Upper Extremity Trauma	MFT	Total
Domestic violence	64(48.1%)	31(27.7%)	95(38.8%)
Assaults	32(24.1%)	79(70.5%)	111(45.3%)
Suicide attemps	23(17.3%)	0	23(9.4%)
Gunshot injury	14(10.5%)	2 (1.8%)	16(6.5%)
Total	133(100%)	112(100%)	245(100%)

The frequency of the violence aetiology among the patients evaluated in the 2-year period of study was 7.5%

Of these 245 patients, 112 (54.3%) presented with MFT. In this group, 79 patients (70.5%) were assaulted by strangers, while the remaining 31 (27.7%) patients presented with domestic violence. 59 (52.7%) of these 112 patients were adult males

Table 11: Maxillofacial Trauma Patients in Violence Etiology

	Adult male	Adult female	Pediatric male	Pediatric female	Total
Domestic violence	13(22%)	13(44.8%)	4(26.7%)	1(11.1)	31(27.7%)
Assaults	44(74.6%)	16(55.2%)	11(73.3%)	8(88.9%)	79(70.5%)
Gunshot	2 (3.4%)	0	0	0	2 (1.8%)
Total	59(100%)	29(100%)	15(100%)	9(100%)	112(100%)

Of these 245 patients, 133 (54.3%) presented with hand trauma. In this group, 85 (63.9%) of the patients were adult men. 46 (54.1%) of the patients were admitted due to domestic violence and 14 patients were admitted due to assaults in adult men. 11 patients presented with sucide attemp and 14 of adult males presented with gunshot injuries. In the aetiology of violence, 22 patients who presented with hand trauma were female patients in the adult age group. Adult women were mostly injuried with a cutting tool due to the theft. 19 male pediatric patients applied to the emergency department for violence-related injuries. Most of male pediatric patients came to the emergency department because of hitting a glass object after being angry with a family member. Only 7 female children applied for violence-related injuries, 3 of them were admitted because of sharp instruments injury during theft, and 4 of them were admitted because of suicide attempts.

Table 12: Hand and Upper Extremity Trauma in Violence Patients

	Adult male	Adult female	Pediatric male	Pediatric female	Total
Domestic violence	46(54.1%)	5(22.7%)	13(68.4%)	0	64(48.1%)
Assaults	14(16.5%)	12(54.6%)	3(15.8%)	3(42.9%)	32(24.1%)
Suicide attemps	11(12.9%)	5(22.7%)	3(15.8%)	4(57.1%)	23(17.3%)
Gunshot injury	14(16.5%)	0	0	0	14(10.5%)
Total	85(100%)	22(100%)	19(100%)	7(100%)	133(100%)

DISCUSSION

Trauma patients constitute a significant portion of those admitted to the emergency department. These trauma patients are mostly evaluated by orthopedics and general surgery. However, plastic surgery also plays an important role in their evaluation (2). The frequency of male patients was found to be 66.7% among all patients. Considering the gender distribution of the patients, 65.7% of the patients in MFT and 68.2% of the patients in hand and upper extremity trauma were male. In the literature, as in our study, male patients are exposed to statistically significantly more trauma than female patients in all age groups (3,4,5).

In the literature, the most common patients evaluated by plastic surgery are those with hand and upper extremity trauma (1,2,5). However, maxillofacial traumas are more prevalent than hand traumas among pediatric patients (6,7). Additionally, some studies focus on major facial injuries while overlooking minor soft tissue traumas in the adult age group (8). At our hospital, plastic surgeons evaluate all lacerations and maxillofacial traumas in pediatric patients rather than emergency doctors, resulting in 61.8% of all patients in our study presenting with maxillofacial injuries. Consequently, pediatric patients constituted 59.5% of all patients in this study. The lower incidence of maxillofacial traumas compared to hand injuries reported in the literature may be due to soft tissue injuries in pediatric patients being treated by emergency physicians rather than plastic surgeons. However, when considering all pediatric patients and soft tissue injuries, it can be concluded that maxillofacial traumas are more common than hand injuries.

In this study, the fall rate among maxillofacial trauma (MFT) patients was 51.6%. A similar fall rate of 47.4% was found in a study focusing on children, aligning with our results (7). According to a European multi-center study, the aetiology of maxillofacial injury varied from centre to centre, with assaults and falls being the most important etiological factor: assaults were the predominant cause in Plovdiv (Bulgaria), Tartu (Estonia), Oslo (Norway), Belgrad (Serbia), Kiev (Ukraine), London (England, UK), and Dundee (Scotland, UK). In contrast, falls were the leading cause in Turin (Italy), Nantes (France), Zagreb (Croatia), Bergen (Norway), Amsterdam (The Netherlands), and Ljubljana (Slovenia) (9).

In this study, 729 fractures were observed in a total of 580 (17.6%) patients. Fractures were seen in 6.9 % of the pediatric age group and 11.8% of adult age group. No additional injury was observed in 93.1% of pediatric patients, and only primary sutures and wound care were applied to the facial area. Previous studies have shown that fracture patients are more common in male and adults, and this study supports that conclusion (6). The most common cause of fracture was traffic accidents, which aligns with the literature where the second most common cause is interpersonal violence (6,7,8,9,10,11). In our study, 45.5% of patients had fractures due to traffic accidents. The second most common cause of maxillofacial fractures was falls (24.8%), followed by violence (16.6%). Similar etiologies have been observed in other studies. For instances, in United Arab Emirates, the most common cause of fractures was motor vehicle accident (75%), then followed by falls (12%) and then assaults (8%) (12). In India, similar rates were observed; Traffic accident related fractures occurred in 72.7%, falls at 14.1%, and assaults following (13). Multicenter trauma studies may provide clearer etiological information.

Previous studies have shown that the most common facial fractures occur in the nasal bone, and our study supports this finding (11). In some studies, mandibular fractures were also reported as the most common type. The reason for this discrepancy may be the lack of sufficient data on nasal traumas since nasal fractures often require less surgical intervention (12,14). In our study, the periorbital region was the second most common fracture site, likely because maxillary fractures were also included in this group. Additionally, fractures in this region were frequently seen in paediatric patients after falls and our clinic is a centre where pediatric patients are often evaluated. Mandibular fractures were the third most common type observed in this study.

Hand and upper extremity traumas are more frequent in most studies (4,15,16). These studies indicate that such injuries predominantly occur in male patients within the adult age group. While work accidents were the most common reason for presentation in all patients, home injuries were the primary cause for female patients (15,17). Statistically, work accidents were significantly higher in males, whereas home injuries were more prevalent in females, aligning with our results (15).This finding has been observed in other studies, although a small number of work accidents were also noted among females. This may be attributed to cultural factors, where women are more involved in domestic activities, and men are more active in business life. Regional etiological differences might also play a role, as some studies have found home accidents to be more common than work injuries among male patients, especially in Europe (18). Sport-related hand injuries were not seen in our study compared with a European study that indicated a high prevalence of these injuries (19). This discrepancy could be because high-level upper extremity traumas and isolated fractures are evaluated by the orthopedics department in our hospital.

Some hand injuries are isolated soft tissue injuries and may be overlooked without plastic surgery evaluation. In our clinic, simple or complicated hand traumas are evaluated by plastic surgeons. For this reason, the incidence of tendon or neurovascular injury was observed to be higher in our study than other studies (19). Regarding hand and upper extremity injuries, 42% of all patients underwent surgical exploration, while the remainder were explored and repaired in the emergency department. Although previous studies reported an incidence of fractures following hand injuries reaching 70%, our study found fractures in only 9% of patients (20). This discrepancy may be because only fractures of the metacarpal and digital bones were evaluated by the plastic surgery department in our clinic. Most of the fractures we observed were open fractures, as closed fractures are primarily assessed by the orthopedics department in our clinic. Therefore, our study reported a higher rate of open fractures compared to other studies (16).

Violence is gradually increasing, and some cases remain hidden (3,4,21). Although it is believed that there are numerous factors contributing to the incidence of violence, especially in cases of domestic injuries, patients admitted to the emergency department often conceal the true cause due to legal concerns. Additionally, while the likelihood of self-harm is higher among young adults, these patients sometimes hide the reasons for their injuries when they applied to hospital. Consequently, only 7.5% of the patients evaluated in emergency departments were reported to have been admitted due to violence-related causes.

The rates of violence in maxillofacial traumas have been well-documented in most studies, but the etiology of violence in hand traumas has not been sufficiently demonstrated (12,13). In adult males, 18.2% of maxillofacial trauma patients presented with an etiology of violence, whereas a similar rate (14.8%) was observed in the hand trauma group in this study. For female adults, the etiology of violence was seen in 11.9% of cases. As indicated by these rates, violence is less common among female patients (3,4,21,22). Overall, 14.7% of adults and 2.6% of children were admitted with a violent etiology. The relative risk of violence in children is 17.7% compared to adults.

The rate of violence varies according to the region and the characteristics of the patients. In Turkey, the most common etiology of MFT is traffic accidents, followed by violence (2.71%) (6). In the United Arab Emirates, violence accounts for 8% of all MFT cases (12). A study focusing on children and adolescents reported a violence rate in MFT of 14.9% (7). n a similar study conducted in India, violence was observed in 8.6% of patients (13). This rate may increase in younger patients with MFT; for instance, one study found that the rate of violence among individuals aged 21-30 was 23.1% (10). Another study reported that interpersonal violence was the primary mechanism of maxillofacial injury, accounting for 48.1% of 294 patients (14). In our study, violence was the etiology in 5.5% of maxillofacial trauma patients and 10.6% of hand trauma patients. Contrary to the literature, vi-

olence was a more common etiology in hand injuries compared to MFT in this study. The etiology of violence in trauma patients evaluated by plastic surgery has not been previously reported.

Violence was most common among male individuals in our study, a finding consistent with several other studies (6,7). When analyzing the nature of violence among patients, 95 (38.8%) were exposed to domestic violence

Figure 3: Spaghetti type wrist injury after suicide attempt

and 111 (45.3%) reported being attacked by unknown assailants. These findings suggest that violence is most often perpetrated by strangers. Although gunshot injuries are rare in most studies (4,17), their rates can be high in certain regions due to sociocultural factors. Most of our gunshot patients were injured while handling their own weapons, with 5 injuries occurring during hunting activities

Figure 4: The patient who applied with a gunshot wound. Before the first intervention.

Of the patients exposed to domestic violence, 64 (48.1%) presented with hand and upper extremity trauma, with sharp instrument injuries being the most common

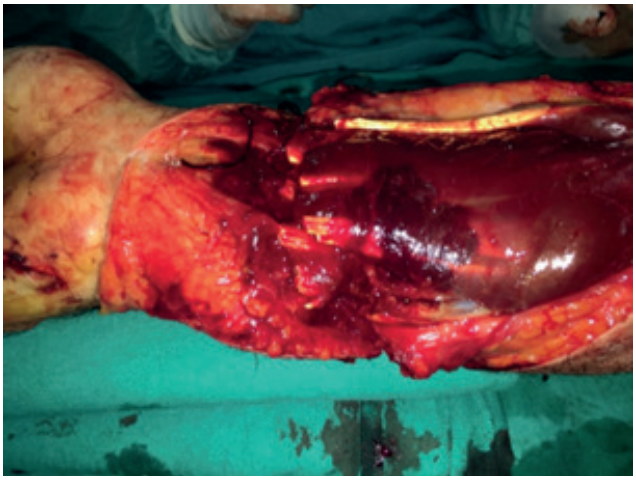

Figure 5: Patient injured during domestic violence

In maxillofacial trauma (MFT) cases, periorbital region traumas were the most frequent, followed by mandible fractures, in the domestic violence group in our study. The literature lacks sufficient information on domestic violence cases seen in plastic surgery emergencies (3,22).

Of the 111 patients who presented with assault-related injuries, 79 (71.1%) had maxillofacial trauma (MFT), while the remaining had hand and upper extremity trauma. In this group, the most common fracture pattern was the combination of mandibular body and mandibular condyle fractures. Lee et al. demonstrated that interpersonal violence often causes mandibular fractures, particularly angular fractures (3). Mandibular fractures were the most frequent type of fracture following assaults (12,13,14), a finding consistent with our study, where assault-related fractures were most common in the mandible. Conversely, fractures resulting from domestic violence were more frequently located in the periorbital region.

The age range of patients who attempted suicide was 14-32 years, consistent with the known trend of suicide attempts being more common among young individuals (22,21). All 23 patients who attempted suicide were trying to cut their wrists with sharp instruments, with only 4 of them presenting with spaghetti-type injuries. Five of the suicide attempts resulted in no neurovascular or tendon injuries. Among the remaining cases, suicide attempts involved injuries to the palmaris longus tendon and some degree of median nerve injury. It is likely that most patients ceased self-harming due to the pain caused by irritation of the median nerve.

CONCLUSION

The majority of trauma patients evaluated by the plastic surgery department were males and children. Hand injuries were more common among adult patients, while maxillofacial traumas were predominant in the child age group. Falling was the most common cause of maxillofacial traumas, whereas home accidents were the leading cause of hand injuries. Among maxillofacial traumas, the most frequently fractured bone was the nasal bone. Regardless of age, gender, and trauma type, 7.5% of patients presenting to the plastic surgery department had an etiology of violence, with assaults being the most common cause of violence.

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Data analysis and interpretation: SY, GOK, MÇ, HU, FÖ

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