

Original article

Medico-legal Assessment of infirmities resulting from Intentional Vascular Injuries to the Extremities in Egypt**Shrouk Mohamed Ali ^{1*}, Shaimaa A. Shehata ¹, Maha Ismail Mohammed Ali ¹, Maher Mohamed Marzouk ², Ayman H. Kamar ³**

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ABSTRACT**Background:** Traumatic vascular injuries are a threat to life.

Peripheral vascular trauma makes up 80% of vascular injuries and remains the most important cause of many consequences for the

victim, ranging from morbidity to disability. Mechanisms of vascular injury are divided into penetrating and blunt injury. **Aim of the Study:** To determine the pattern of intentional extremity vascular injuries from the medico-legal viewpoint and to assess different degrees of infirmity that result from these injuries. **Subjects and Methods:** A prospective cohort study was conducted on 92 victims with intentional vascular injuries in the Forensic Medicine Authority, Cairo Department, Ministry of Justice, Egypt. Sociodemographic data was obtained from victims. A medico-legal assessment, the fate of injuries, and the degree of the resulting infirmity were assessed by a forensic expert. **Results:** Male predominance in all age groups was found with a mean age of 33.82 years. Over half (55%) of the victims were from urban areas. Firearms were the most commonly used causative instrument (46.7%) for inducing the vascular trauma. Upper extremity vascular injuries were more frequent (64.1%). The ulnar and femoral arteries were the most commonly injured vessels (29.3% and 15.2%, respectively). There was statically significant association between the gender and each of the injured limb ($p<0.05$) and side of injury ($p<0.002$). There was a significant relationship between accompanied injuries and the anatomical location of extremity vascular injuries ($p<0.05$). **Conclusion:** The most intentional peripheral vascular injuries were seen in young men, more frequent by using firearm weapons, the upper extremities were more liable for intentional injuries. The ulnar and femoral arteries were the most commonly injured upper and lower vessels, respectively.

KEYWORDS: Extremity Vascular Injury, Pattern and Fate, Permanent infirmity.

I. INTRODUCTION:

In many parts of the world, trauma has become a public health issue, with vascular trauma being a major contributor. Vascular trauma (both peripheral and central) can develop in either a civilian or military environment. Fortunately, it is unusual for a patient to appear with this type of damage in a civilian setting (Mahsoub et al., 2013). The mechanism of injury (blunt, penetrating, or combination) and the anatomical location of the injury (upper or lower extremity) are used to categorize peripheral vascular trauma. Fractures or dislocations can result in blunt injuries. Objects that are missiles (e.g., bullets, bomb fragments, etc.) or stabs (e.g., knives, keys, etc.) can cause penetrating injuries (Feliciano et al., 2011).

Local compression, quick deceleration, and the associated shear stresses cause tissue injury in blunt trauma. In penetrating trauma, the injury of the tissue is produced by crushing and separation of tissues along the path of the penetrating object along with the resulting concussive shockwave (Samir et al., 2021).

If vascular trauma is not diagnosed and treated quickly, damage to major arteries, veins, and nerves can have fatal effects, resulting in death or limb loss, as well as lifelong disability (permanent infirmity) (Mahsoub et al., 2013). Permanent infirmity (disability) defined as an irreversible loss of a function of an organ or an irreversible deprivation of a functioning organ resulted from a physical or mental damage that disables a person to conduct his or her everyday activities (Hafez et al., 2020). Essentially, permanent disability has a medical as well as a legal concept. In order to

change this position for the safety of the patient and the public, the medico-legal physician must have some understanding of legal practices behind compensation for injuries (Abd El-Hady et al., 2013).

Most of research on vascular trauma in the literature is from a clinical point of view in the form of epidemiology, management strategies, and complications. There is a shortage of research on vascular trauma from medico-legal aspects especially in the extremities and its relation to permanent infirmity. For this reason, we conducted this research to determine pattern of intentional extremity vascular injuries among victims from the medico-legal view and to evaluate different degrees of infirmity that results from these injuries.

II. SUBJECT AND METHODS:

A prospective cohort study was conducted on 92 victims with intentionally inflicted extremity vascular injuries in the Forensic Medicine Authority, Cairo Department, Ministry of Justice, Egypt between January 2015 and December 2016.

II.1 Data collection:

The obtained data include sociodemographic characteristics (age, gender, residence), a medico-legal assessment of vascular injury, the fate of extremity vascular injuries, and the degree of the resulting infirmity. All victims were examined by a surgeon first, then by a forensic expert (one of the researchers) after healing, and they were followed up for 12–18 months till the complications become stable and become not liable to improvement or regression then degree of infirmity was determined and assessed by the forensic expert.

II.2 Ethics approval and consent to participate:

The study protocol approved by the Research Ethics committee of the Faculty of Medicine, Suez Canal University (registration code: 4828#). An official approval was retrieved from the head of Egyptian forensic medicine authority, Ministry of Justice, Egypt was sought before beginning of the study. Written informed consent was obtained from the victims for publication of their anonymous data and accompanying images.

II.3. Statistical analysis:

The collected data was coded, entered, and analyzed using a basic statistics program: statistical package for social sciences (SPSS) software version 24. Descriptive statistics were represented as frequencies (n) and percentages (%) for categorical variables. A chi-Square test was used to determine the association between different variables. A p-value of (<0.05) was considered statistically significant.

III. RESULTS

Sociodemographic characteristics of victims represented that, over half (55%) of victims were from urban area (Figure 1). Gender and age distribution showed, male predominance in all age categories, there were 13 females (14 %) and 79 males (86 %), resulting in a female: male ratio of 1:6.1. They were of different ages ranging from 10 years up to 65 years with the mean of 33.82 ± 12.5 years. Nearly third of them (27.2%, n=25) were aged from 21 to 30 years, 17 victims (18.5%) were less than 20 years, and 8 victims (8.7%) were aged above 50 years. (Figure 2).

Figure 3 illustrated that, the most common causative instruments induced these injuries

were firearms (46.7%) followed by the blunt and the stab injuries (25% for each one). Regarding firearm weapons used, the types of weapons that were used to inflict injuries of total sample included shotguns (33.7%), followed by rifles (12%), and only one case (1.1%) was injured by air guns. Victims of vascular injuries caused by firearms were (83.7 %) male and (16.3 %) female. Victims with upper extremities vascular injuries were higher in frequency rate (n=59, 64.1% of all vascular injuries) than lower extremities vascular injuries (n=31, 33.7%). Only 2 female victims (2.2%) suffered from combined upper and lower vascular injury. There was statically significant association between the gender and each of the injured limb ($p<0.05$) and side of injury ($p<0.002$). (Figure 4).

Regarding upper extremity vascular injuries, the ulnar artery was the most frequently injured vessel (n = 27, 29.3%), followed by the radial (n = 18, 19.6%), and the brachial arteries (n = 9, 9.8%) (Table 1 and Figure 5). On the other hand, the axillary artery was the least affected vascular vessel in the upper limb (n = 1, 1.1%). Regarding lower extremities vascular injuries, femoral injury was the most frequently injured vessel (n = 14, 15.2%), followed by the popliteal (n = 10, 10.9%), and the tibial arteries (n = 6, 6.5%) (Table 1; Figure 6).

There were accompanied injuries in form of concomitant bone fractures, nerve lesions and injuries in other organs besides vessel injuries represented 43.5% of study sample. Relationship between accompanied injuries among victims of extremity vascular injury and each of anatomical location of extremity vascular injury and injured vessels was

described in (Table 2). A higher rate of accompanied injuries in the upper limb versus those in the lower limb (31.5% and 9.8%, respectively). There was a significant relationship between accompanied injuries and anatomical location of extremities vascular injury ($p < 0.05$). There was no significant relationship between the accompanied injuries and injured vessels ($p > 0.05$).

After a medico-legal examination and a follow-up for 12-18 months of the injured victims until their conditions were established, the fate of the injuries and the percentage of permanent infirmity in extremities vascular injuries victims were assessed. Seventy-one victims (77.2%) had limb dysfunctions, while 21 victims (22.8%) had amputated limbs as a consequence of trauma. The most frequent percentage of permanent infirmity was found in the range of 6–10% among twenty- three victims (25%), followed by the range (11–15%) among nineteen victims (20.7%), and the range (16–20%) among sixteen victims

(17.4%). On the other hand, the percentage of permanent infirmity greater than 35% was the least percent of permanent infirmity represented (3.3%) in the study sample. (Figures 7, 8 and 9).

Limb dysfunction was the most common fate resulting from injury of the radial artery ($n = 15$; 16.3%), followed by injury of the ulnar artery ($n = 14$; 15.2%) and femoral artery ($n = 13$; 14.1%). Regarding loss of limbs as a consequence of extremities vascular trauma, amputation was the most prevalent among ulnar artery injuries ($n = 13$; 14.1%), followed by injuries of the radial artery ($n = 3$; 3.3%). (Table 3).

The fate of vascular injuries among victims regarding each of age groups, gender and used causative mechanisms is demonstrated in Table 4. It found that there was no significant relationship between fate of injury and each of age groups ($p > 0.05$), gender ($p > 0.05$). It found that there was a significant relationship between the fate of injury and the causative mechanisms that induced the trauma. ($p < 0.05$).

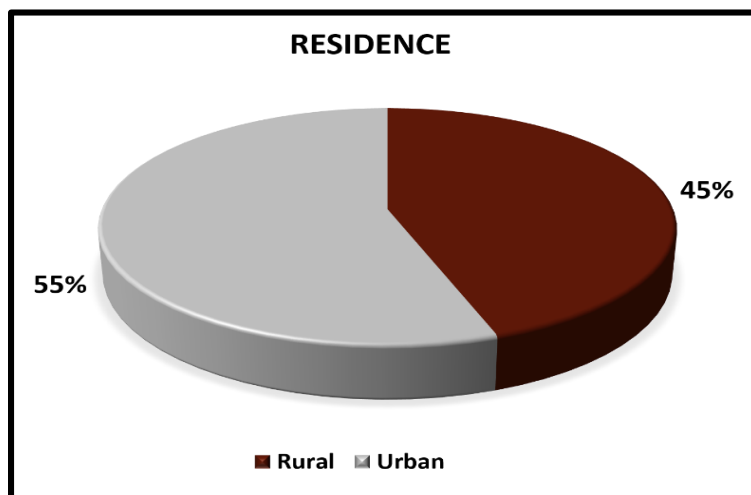


Figure 1: Distribution of victims who exposed to extremities vascular injuries according to residency ($n= 92$).

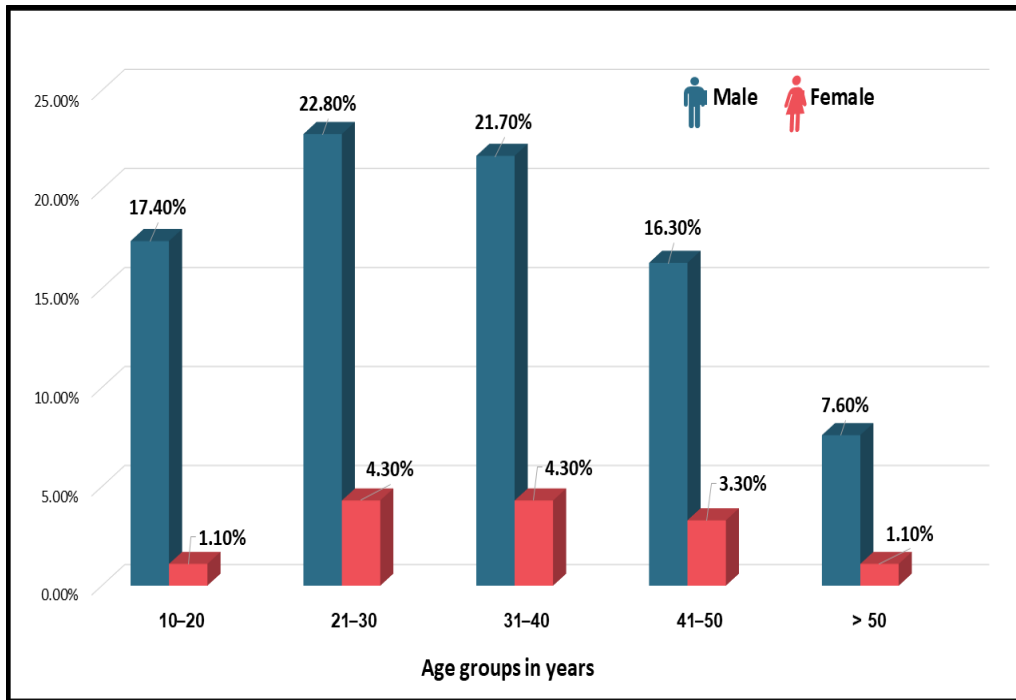


Figure 2: Distribution of victims who exposed to extremities vascular injuries by gender and age groups (n= 92).

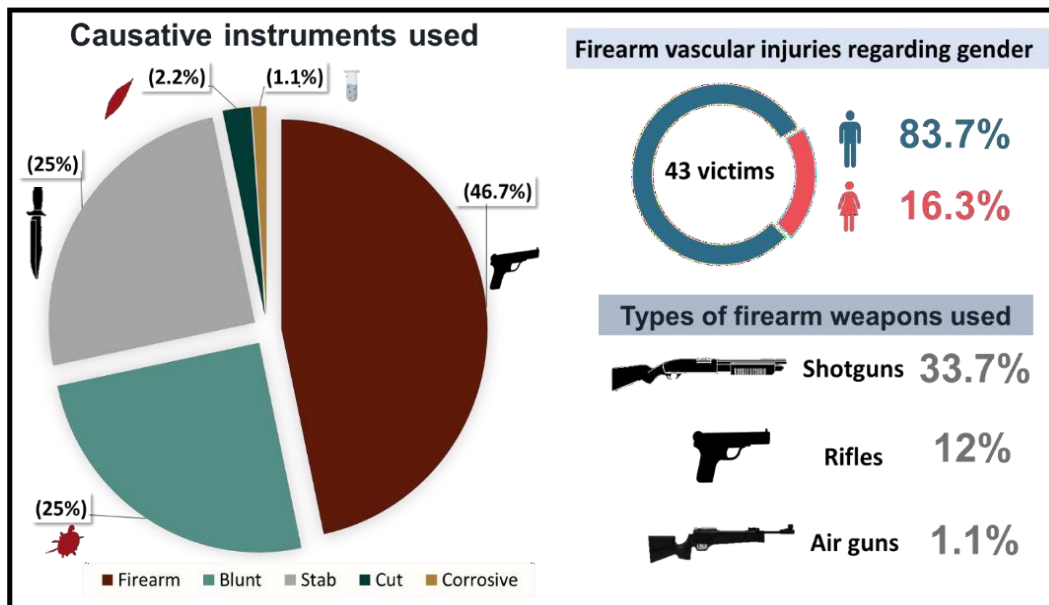


Figure 3: Distribution of the victims who exposed to extremities vascular injuries according to causative instruments (n=92).

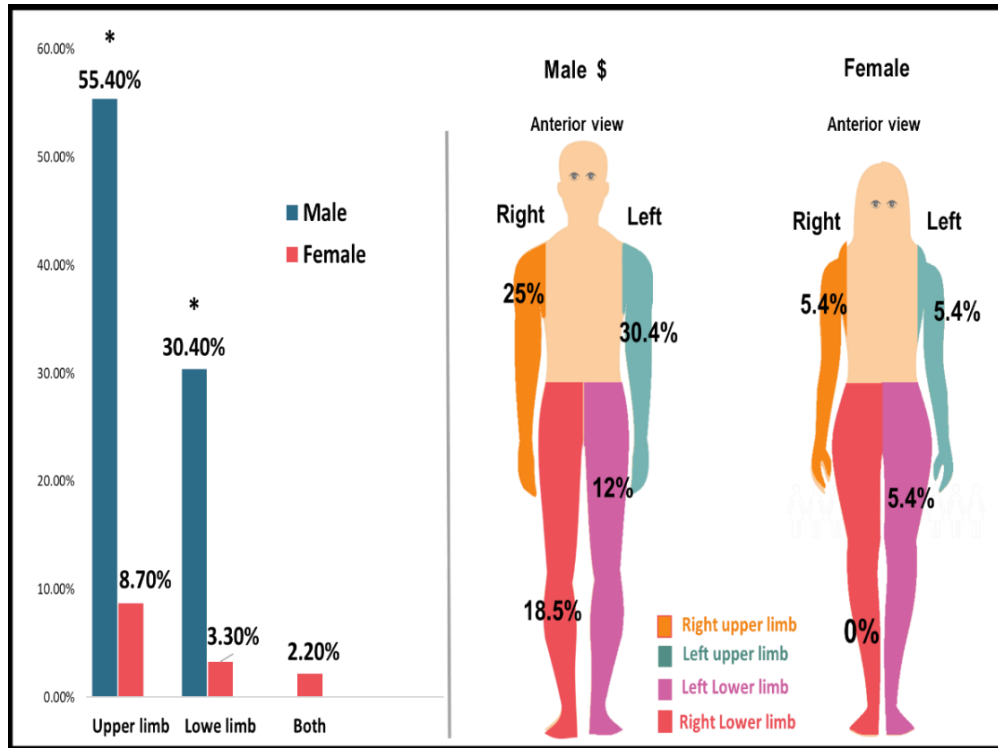


Figure 4: Distribution of the extremity’s vascular injuries among both gender according to anatomical location (n= 92). * Statistically significant at p value <0.05; \$ p< 0.002 Chi-Square Test.

Table 1: Distribution of the extremity’s vascular injuries among victims according to the injured vessel (n= 92)

Extremity	The injured vessel	No &%
Upper extremities	Axillary	1(1.1%)
	Brachial	9 (9.8%)
	Brachial & Ulnar	1(1.1%)
	Radial	18(19.6%)
	Ulnar	27 (29.3%)
	Ulnar & Radial	4 (4.3%)
Lower extremities	Femoral	14 (15.2%)
	Tibial	6 (6.5%)
	Popliteal	10 (10.9%)
Upper & lower extremities	Ulnar & Femoral	1(1.1%)
	Ulnar &Popliteal	1(1.1%)

N: number of cases



Figure 5: A seventeen-year-old young man was brought by his friends to the emergency department after a small stabbing injury to his right forearm just above the wrist. The patient was playing with his friends and as a result of a dispute one of them used a small knife to assault him. On surgical exploration, a complete rupture of the radial artery and a patent ulnar artery was found. Surgical repair of the ruptured artery was successfully done leaving only a keloid scar limiting the free movement of the wrist joint required.

Figure 6: A sixty-five-year-old male living in a rural district was exposed to an attack by one of his neighbors due to a fight regarding children playing. He was shot from behind by a revolver while running to escape. This led to an injury to the left lower limb. Surgical exploration revealed injury to the popliteal artery just below the popliteal fossa with subsequent comminuted fractures of both leg bones. Successive surgical interventions including orthopedic, vascular surgery and plastic surgery succeeded to save the limb with a residual disability due to shortening of the leg.

Table 2: Relationship between accompanied injuries among victims and each of anatomical location of extremities vascular injury and injured vessels (n= 92)

Injured vessel		Accompanied injuries Total (n= 92)		p value [#]
		No (No &%)	Yes (No&%)	
Upper extremities		30 (32.6%)	29 (31.5%)	0.04 *
Lower extremities		22 (23.9%)	9 (9.8%)	
Both		0 (0.0%)	2 (2.2%)	
Upper	Axillary	0 (0.0%)	1(1.1%)	0.551
	Brachial	6(6.5%)	3(3.3%)	
	Brachial & Ulnar	0 (0.0%)	1(1.1%)	
	Radial	10(10.9%)	8(8.7%)	
	Ulnar	13(14.1%)	14(15.2%)	
	Ulnar & Radial	2(2.2%)	2(2.2%)	
Lower	Popliteal	7(7.6%)	3(3.3%)	
	Femoral	9(9.8%)	5(5.4%)	
	Tibial	5(5.4%)	1(1.1%)	
Both	Ulnar & Femoral	0(0.0%)	1(1.1%)	
	Ulnar &Popliteal	0(0.0%)	1(1.1%)	

*Statistically significant at p value <0.05

[#] Chi-Square Test was used

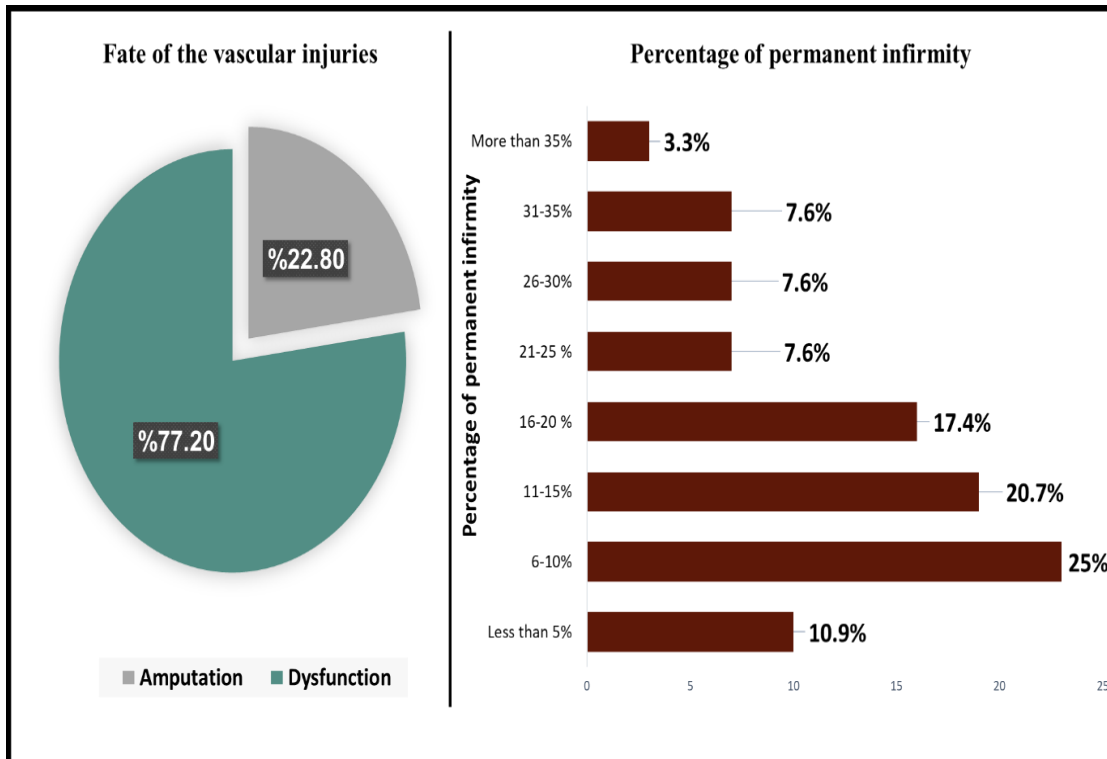


Figure 7: Assessment of fate of injuries and percentage of permanent infirmity among victims of extremities vascular injuries (n= 92)



Figure 8: A twenty-year-old male living in a small village was exposed to an attempt to steal his motor vehicle (toktok) that he works as a driver on by a group of three guys. He resisted and they attacked him on both his knees by a wooden stick and a metal pipe in order to steal it and this led to an injury to both lower limbs. Surgical intervention revealed injury to the right popliteal artery. Signs of peripheral limb ischemia appeared after surgical correction of the injured popliteal artery and amputation of the gangrenous part of the right foot was mandatory. The researcher estimated the degree of infirmity after 12-18 months of follow up visits till the condition becomes stable and final.



Figure 9: An eighteen years old girl, was involved in a violent attack due to a trail to steal her personal handbag by an attacker on a motorcycle and she resisted him which led her to fall on the ground with subsequent serious crushed injury to her right forearm which involved the ulnar artery. She was admitted to the hospital and a conservative treatment fails to save the limb and amputation mid-forearm was inevitable. The researcher estimated the degree of infirmity after 12-18 months of follow up visits till the condition becomes stable and final.

Table 3: Distribution of injured vessels and the fate of vascular injuries among victims which detected through medico legal examination and follow up (n= 92)

Injured vessel		Fate (n=92)	
		Amputation (No &%)	Dysfunction (No &%)
Upper extremities	Axillary	0 (0.0%)	1(1.1%)
	Brachial	1(1.1%)	8(8.7%)
	Brachial & Ulnar	0(0.0%)	1(1.1%)
	Radial	3(3.3%)	15(16.3%)
	Ulnar	13(14.1%)	14(15.2%)
	Ulnar & Radial	1(1.1%)	3(3.3%)
Lower extremities	Femoral	1(1.1%)	13(14.1%)
	Popliteal	2(2.2%)	8(8.7%)
	Tibial	0(0.0%)	6(6.5%)
Upper & lower extremities	Ulnar & Femoral	0(0.0%)	1(1.1%)
	Ulnar & Popliteal	0(0.0%)	1(1.1%)

Table 4: Relation between the fate of vascular injury and each of age groups, gender and used causative mechanisms (n= 92)

Item		Fate (n=92)		p value #
		Amputation No &%	Dysfunction No &%	
Age groups	10-20 years	7 (7.6%)	10 (10.86%)	0.13
	21-30 years	6 (6.5%)	19 (20.65%)	
	31-40 years	3 (3.26%)	21(22.82%)	
	41-50 years	2 (2.2%)	16 (17.39%)	
	>50 years	3 (3.26%)	5 (5.43%)	
Gender	Male	19 (20.65%)	60 (65.21%)	0.49
	Female	2 (2.17%)	11(11.95%)	
Causative mechanisms	Blunt trauma	5 (5.43%)	19 (20.70%)	0.04*
	Stab/cut injuries	10 (10.86%)	15 (16.30%)	
	Firearms	6 (6.5%)	37 (40.21%)	

*Statistically significant at p value <0.05

Chi-Square Test was used

IV. DISCUSSION

Trauma is one of the most common causes of death, and vascular injury affects about 1% of all trauma patients. Peripheral vascular trauma represents about 80% of vascular injuries and is the leading cause of numerous consequences for victims in developing countries, ranging from significant morbidity to disability (Baghi et al., 2015, Fouad et al., 2019, Urrechaga et al., 2021, Gupta et al., 2001).

The type of the imposed mechanical force, as well as, the nature of the targeted limbs and vessels, are all factors that influence the resulting peripheral vascular injury (Haque and Barek, 2013). Specialists, such as surgeons, are responsible for treating these injuries. The medico-legal evaluation, on the other hand, is the responsibility of forensic pathologists, who evaluate and assess the types and percentages of various infirmities on which the amount of compensation is based. Prescribed penalties are enhanced in cases of vital risk and organ dysfunction, and further escalated in cases of organ loss, according to the applicable statutes (Asirdizer et al., 2004).

The current study was conducted on 92 victims with intentional extremities vascular injuries in the Forensic Medicine Authority, Cairo department, Ministry of Justice, Egypt and reveals that, the majority of cases sustaining vessel injuries were males, with a mean age of around 30 years, which is consistent with the findings of various studies in different geographic distributions which confirm these findings (Adeoye et al., 2013, Nwafor et al., 2016, Urrechaga et al., 2021).

Those findings can be explained by the fact that men are much more exposed to the dangers of accidents and vessel injuries as a result of their active lifestyles and their relatively aggressive attitudes, and the average age of those victims is near 30 years, which could be explained by the comparatively high level of activity in this age group and the increased life responsibilities (Asirdizer et al., 2004).

Over half of the participants in this study were from urban areas, which is nearly the same percentage found in a study by Hafez and his colleagues (Hafez et al., 2020). This result is expected since urbanization leads to an increase in city inhabitants, which leads to higher promiscuity and injury risk.

The current study was conducted at the Forensic Medicine Authority-Cairo Department, with victims investigated from various governorates across Egypt, with diversity of victims between urban and rural population. This is disagree with Abd El-Hady and colleagues who found on their study of traumatic victims that, the majority of cases (93.05%) came from rural areas, this was interpreted as their study was in Assiut governorate, which has a large rural population (Abd El-Hady et al., 2013).

In the present study; the most causative instruments were firearms, followed by stabbing and blunt objects. These findings are in agreement with various studies that have demonstrated that penetrating injuries, such as gunshot and stabbing injuries, are a common etiological factor (Rana et al., 2008, Urrechaga et al., 2021).

The widest distribution of unlawful local community gun manufacturing

operations in Egypt explains this. On the other hand, a study of the medico-legal and clinical aspects of peripheral vascular injuries conducted in Saudi Arabia's Eastern Province found that weapons were the second most common causative mechanism of vascular injuries after traffic accidents (Fouad et al., 2019).

Penetrating vascular injury accounted for 75%-80% of peripheral vascular injury in a multicenter study in the United States, while blunt injury accounted for 5%-25% (Feliciano et al., 2011). This is definitely similar to the findings of the present study because penetrating trauma accounted for 71.7 % of the total, while blunt trauma accounted for 25%. However, this is incongruous with previous research that shows that cutting and stabbing objects are the main causes of limb vascular injuries (Razmadze, 1999, Galambos et al., 2004). This could occur in countries where firearms are more difficult to get.

The percentage of upper extremity vessel injuries was higher than the percentage of lower extremity vessel damage in this study. These rates are consistent with those found in a study of vascular injury victims done in West Africa (Adeoye et al., 2013). This result is interpreted by saying that the upper extremities are easily accessible and can be used as a source of protection for sufferers attempting to protect their bodies from injuries and strikes by employing their upper limbs. However, this evidence contradicts previously published reports in studies conducted in Turkey (Asirdizer et al., 2004), China (Sun et al., 2015) and Saudi Arabia (Fouad et al., 2019) that found a reversed injury proportion in lower and upper

extremities vessels. It could be related to the overall differences in injury etiology and the circumstantial evidences that goes with it.

In their study of vascular trauma in Western Australia, Gupta et al. showed that a high frequency of lower limb extremity trauma is most usually injured due to primarily blunt trauma (Gupta et al., 2001). Therefore, the high percentage of upper extremity vessel injuries in the current study can be explained by the high frequency of these injuries caused by firearms and stabbing instruments, since upper limbs are more easily accessible by these weapons.

The ulnar and radial arteries were the most frequently injured upper vessels in the current study. This finding is in line with that of Baghi et al., who described a study of patients in which the ulnar and radial arteries were the most common injured vessels (64%) (Baghi et al., 2015), despite the fact that other studies have found that the brachial artery is the most commonly injured vessel in the upper extremity (Rana et al., 2008, Feliciano et al., 2011, Nwafor et al., 2016). This observed discrepancy could be attributed to differences in injury mechanisms in various societies.

The femoral artery was the most frequently injured lower vessel reported in the current study, followed by the popliteal and tibial arteries. Similarly, the femoral artery was revealed to be the most frequently injured vessel among lower limb vessels in the majority of previous research (Rana et al., 2008, Sun et al., 2015, Nwafor et al., 2016). According to Fouad and colleagues, lower limb arterial trauma had a significantly higher frequency rate than venous injuries, with the superficial femoral artery being the most

commonly affected lower limb artery, followed by the deep femoral artery, and then the popliteal artery, while the deep femoral vein was the most frequently affected lower limb vein, followed by the superficial femoral vein, and then the popliteal vein (Fouad et al., 2019). Unlike other studies, which have demonstrated that damage to the popliteal artery is the most prevalent lower limb vascular injury (Peck et al., 1990, Baghi et al., 2015).

Following the medico-legal assessments in this study after followed up for 12–18 months, it was found that nearly half of the victims had accompanied injuries to their vascular extremities. This result is approximately similar to a reported percentage of (44.6%) by Fouad et al. in their study of victims of peripheral vascular injuries at three specialized trauma centers in Saudi Arabia's Eastern Province (Fouad et al., 2019).

The majority of the victims in this study had limb dysfunctions, with just a small percentage having amputated limbs as a consequence of the trauma. This functional disability coincides with what has been reported in previous studies (Franz et al., 2009, Jaipuria et al., 2014, Sun et al., 2015). It has the potential to raise a significant issue with quality of life and legal compensation.

On the other hand, Asirdizer et al. reported a reversed finding in which (9.9%) of cases in their study were classified as organ dysfunction, whereas (14.2%) of the cases had amputated limbs

(Asirdizer et al., 2004). Several factors, including nerve injuries, complex soft tissue injuries, and, in particular, artery

anastomoses and graft failures, may have contributed to this finding.

There was no statistically significant association found between the fate of vascular injuries and each of the gender and age categories, which is similar to what Sun et al. found in their study on the assessment of the outcome of patients with extremity vascular injuries (Sun et al., 2015). On other hand, their study indicated no statistically significant difference between the fate of vascular injuries and the mechanism of the injury, which in contrast with the current study's findings, which found a significant relationship. Since in their study, blunt vascular injuries to the extremities occurred in 75.86% of the patients, and these were often accompanied by crush and avulsion injuries, and repairs to these injuries are particularly challenging.

V. CONCLUSION

Males are more likely than females to suffer peripheral vascular injuries, with more exposure between the ages of 21 to 30 years. Penetrating injury was the most common intentional cause of vascular injury. Sharp and firearm weapons were the most used in assault, leading to limb dysfunction and different degrees of infirmities. The ulnar and femoral arteries were the most frequently injured vessels in the upper and lower limbs, respectively.

VI. RECOMMENDATIONS

One of the important factors that would help reducing vessel injuries and therefore consequential permanent complications are tougher control over the holding of sharp and firearm weapons among civilians and aggravated legal penalties for offenders of the

crime for injuries or deaths by such weapons. Legalizing the use and sale of firearms is necessary in Egypt. Trying to eradicate illicit local community gun manufacturing units is essential goal. There is a need for educational efforts and community and societal curriculum to decrease intentional injuries.

VII. Limitations of the study

The current study included a relatively few victims with extremity vascular injuries, they referred to the Forensic Medicine Authority, Cairo department, Ministry of Justice, Egypt at the time of the study.

VIII. Conflicts of interest

The author declared that there was no conflict of interest.

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المخلص العربي

تقييم العاهات الناتجة عن إصابات الأوعية الدموية الطرفية المتعمدة في مصر من الوجهة الطبية الشرعية

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خلفية البحث: إصابات الأوعية الدموية تشكل خطرا على الحياة. حيث تشكل إصابات الأوعية الدموية الطرفية 80% من إصابات الأوعية الدموية وتظل السبب الأكثر أهمية لكثير من المضاعفات و العواقب غير المرغوب فيها بالنسبة للضحية ، والتي تتراوح من المرض إلى الإعاقة، و تقسم أليات إصابة الأوعية الدموية الى اصابات رضية واصابات حادة. **الهدف من البحث:** تحديد نمط الاصابات المتعمدة فى الأوعية الدموية الطرفية من الوجهة الطبية الشرعية وتقييم درجات العجز المختلفة التي تنتج عن هذه الإصابات. **طريقة البحث:** أجريت الدراسة على 92 ضحية يعانون من إصابات الأوعية الدموية الطرفية المتعمدة من الوجهة الطبية الشرعية من مصلحة الطب الشرعي قسم القاهرة ، وزارة العدل ، مصر. و تضمنت البيانات التي تم الحصول عليها بيانات ديموغرافية ، وتقييم الاصابات من الوجهة الطبية الشرعية، ومصير الإصابات ، ودرجة العجز الناتج عن هذه الاصابات. **النتائج:** معظم الضحايا من الذكور في جميع الفئات العمرية بمتوسط عمر 33.82 سنة و أكثر من نصف الضحايا (55%) كانوا من المناطق الحضرية. كما اوضحت الدراسة أن الأسلحة النارية هي الأداة الأكثر استخداماً (46.7%) فى احداث إصابات الاوعية الدموية المتعمدة. و مثلت إصابات الأوعية الدموية فى الأطراف العلوية(64.1%) من النسبة الكلية لإصابات الأطراف. وكانت الشرايين الزندية والفخذية هى أكثر الأوعية الدموية إصابة (29.3% و 15.2% على التوالي). و قد كانت هناك علاقة ذات دلالة احصائية بين الجنس وكلا من الطرف المصاب وجانب الإصابة، كما كانت هناك علاقة ذات دلالة احصائية بين الإصابات المصاحبة ومكان اصابات الأوعية الدموية الطرفية . **الخلاصة:** شوهدت معظم إصابات الأوعية الدموية الطرفية المتعمدة عند الشباب ، والتي تحدث في كثير من الأحيان بسبب الأسلحة النارية ، وكانت الإصابات أكثر في الأطراف العلوية. الشريان الزندي والفخذي هما اكثر الأوعية الدموية العلوية والسفلية إصابة على التوالي.