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THE RESULTS OF TREATMENT AND TESTING OF THE DEVELOPED METHOD OF THE COMPLEX TREATMENT OF THE WOUNDS AND TROPHIC ULCERS BASED ON THE OUR EXPERIENCE OF THE TREATMENT OF WOUNDED WITH MILITARY TRAUMA

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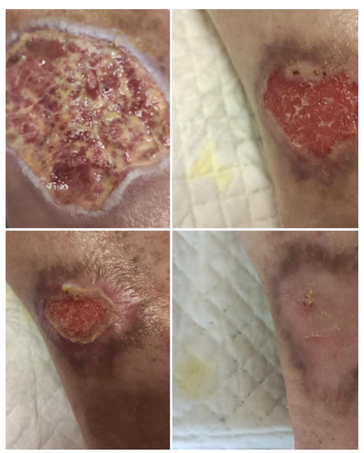
INTRODUCTION

During the environmental protection in eastern Ukraine was recorded 243 cases, included damage of the artery in 113 cases (46,5%); in 27 (11,1%) – damage of the vein; in 103 cases (42,4%) - both. In 208 cases (85,6%) we identified satisfactory result, in 20 (8,2%) – the treatment resulted in amputation of lower extremities, in 11 (4,5%) – the treatment resulted in amputation of upper extremities, in 4 cases (1,7) – lethal. The presence of long-term non-healing wounds was the reason for improving the method of their treatment.

AIM

to study the main structure and results of treatment of injuries of the main vessels of the lower extremities during the Joint Forces Operation (JFO) at the 4th stage of angiosurgical care and implement the developed method of complex treatment of patients with wounds and trophic ulcers

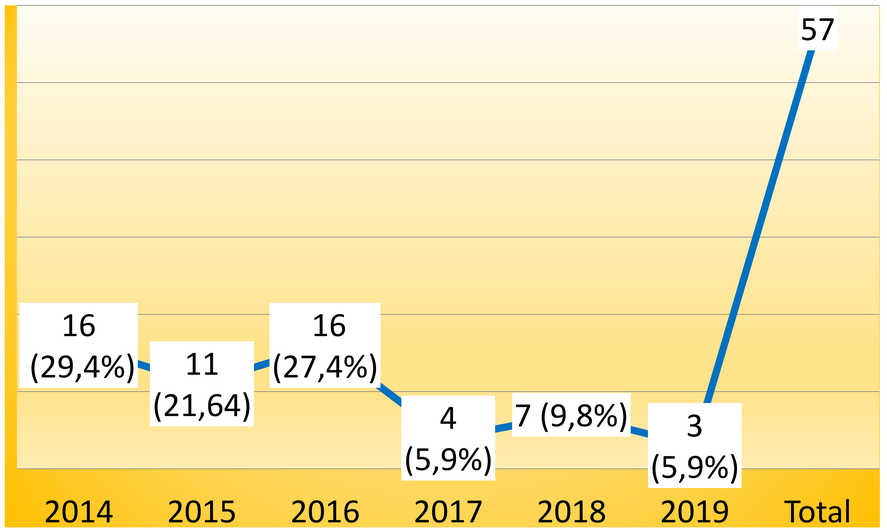


The photo shows the venous trophic ulcers before and after treatment and on the eve of the autodermoplasty

MATERIALS AND METHODS

We have analysed 57 cases of gunshot wounds of the main vessels of the lower extremities who have undergone treatment at our medical facility from 2014 to 2019.

ANALYSIS OF THE INJURIES PER YEARS IN THE STUDY



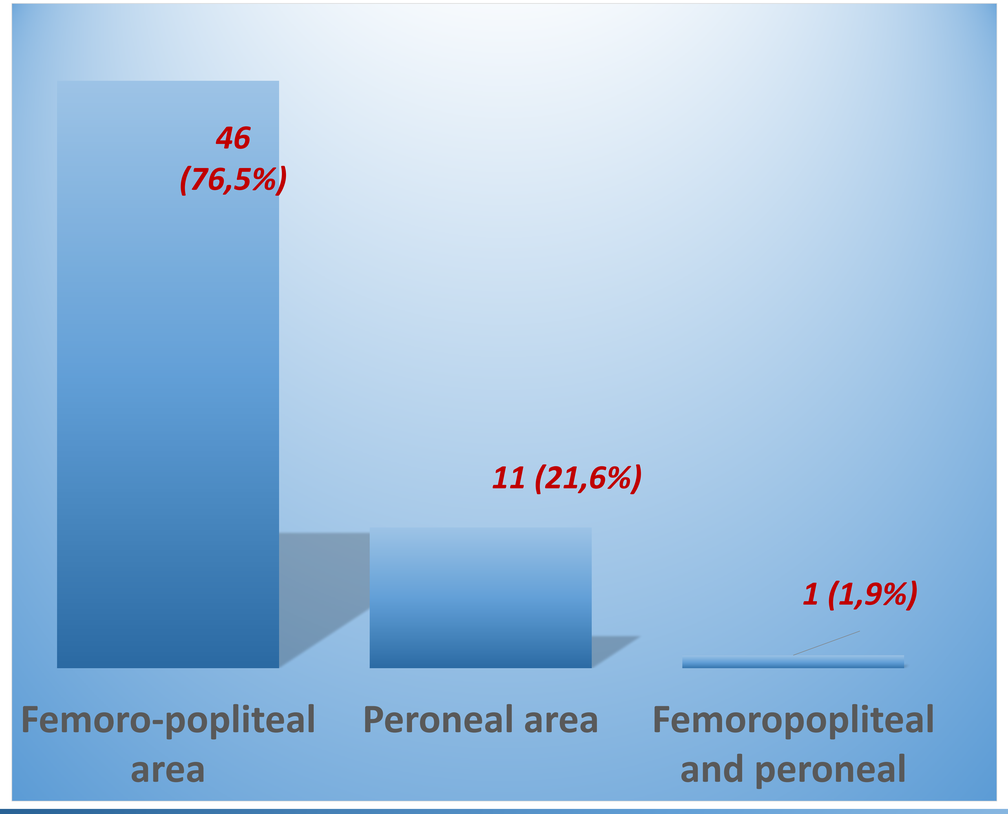
The amount of GSW were registered in 2014 was included 16 cases (28%), in 2015 – 11 (19,3 %); in 2016 – 16 (28 %); in 2017 – 4 (7,1 %); in 2018 – 7 (12,3 %); in 2019 – 3 cases (5,3 %).

In the study was included patients under 55 years old. The analysis of the age category showed: 6 cases (10,6%) – patients under 20 years old; 22 (38,6%) – from 21 to 30 years old; 17 cases (29,8%) – from 31 to 40 years old; 10 cases (17,5%) – from 41 to 50 years old; 2 cases (3,5%) – older than 50 years old.

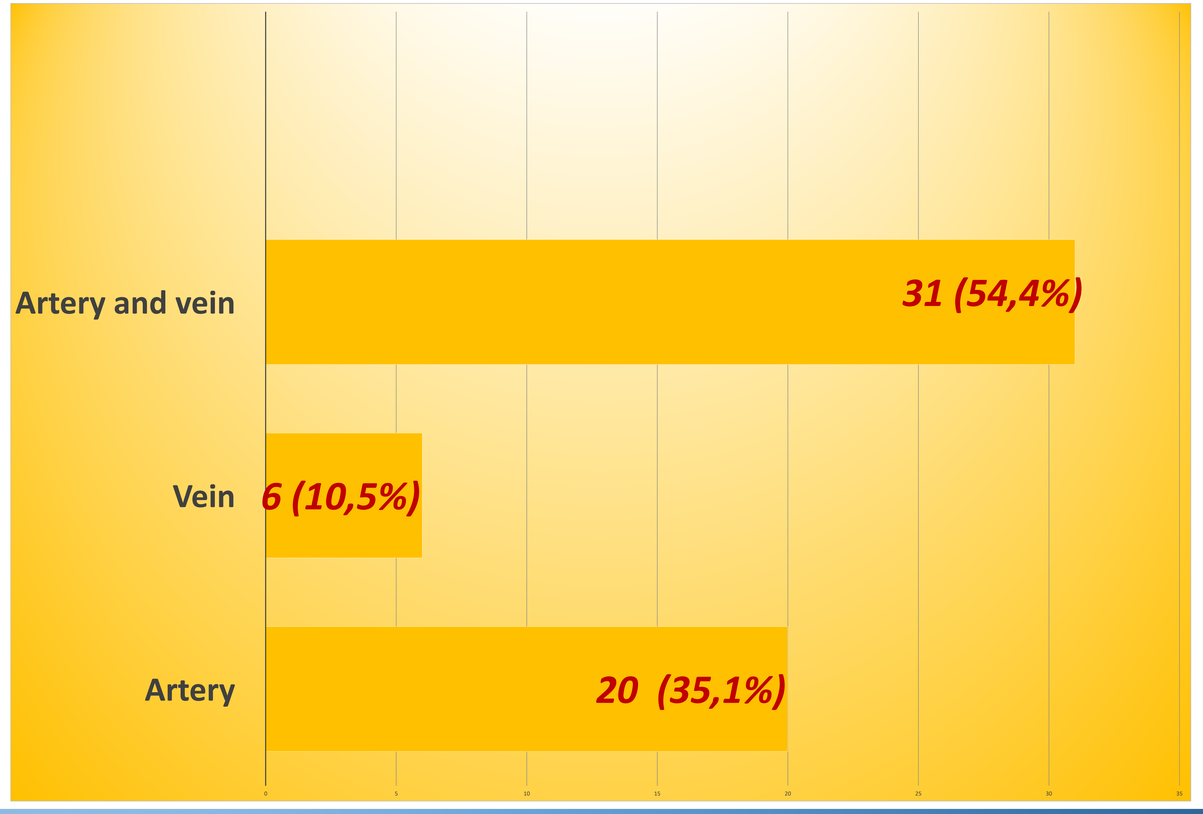
86,3% of the victims had massive soft tissue damage to the limbs, which complicated treatment. Correction of the main blood flow was the basis of success, but local treatment was crucial.
The introduction of low-energy laser radiation into clinical practice significantly accelerates healing. Our priority was to develop a comprehensive electric welding machine for ablation of unsuccessfully perforated veins in the field of ulcers of venous origin. Such a device was created and successfully used in the treatment of 18 (35.3%).

RESULTS

THE LOCALISATION OF GUNSHOT WOUNDS



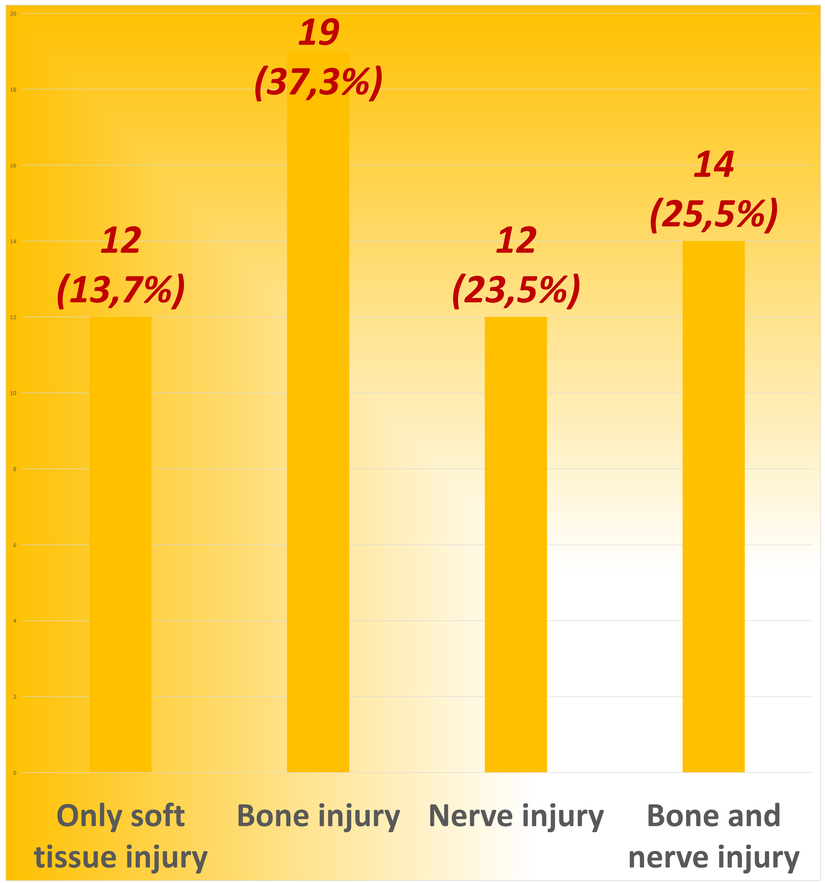
THE KIND OF INGURED VESSELS

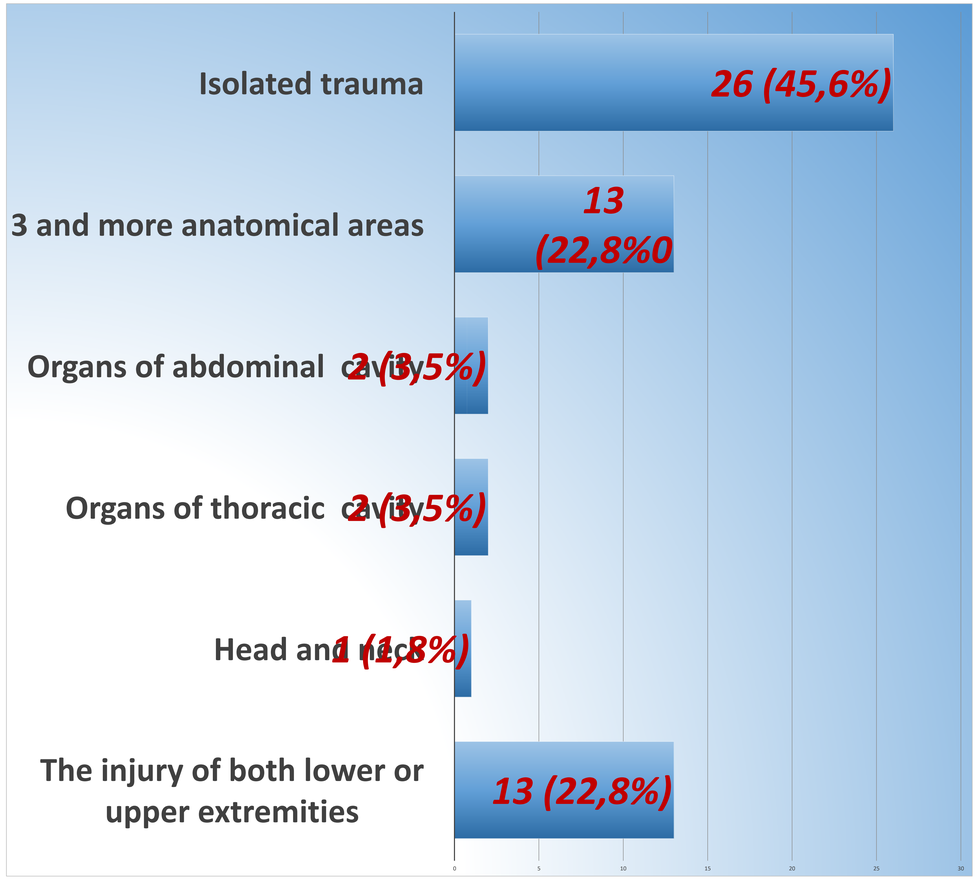


Among all injuries, 88,2% were combat, and 11,8% - non-combat. Among injuries involved damage of the artery was in 20 cases (35,1%); in 6 cases (10,5%) – damage of the vein; in 31 cases (54,4%) - both, artery and vein. The localisation of the GSW was the following: in 46 individuals (76,5%) of the injuries were in femoropopliteal area, in 11 individuals (21,6%) - peroneal, in 1 individual (1,9%) - both.

RESULTS

CONCOMITANT TRAUMA

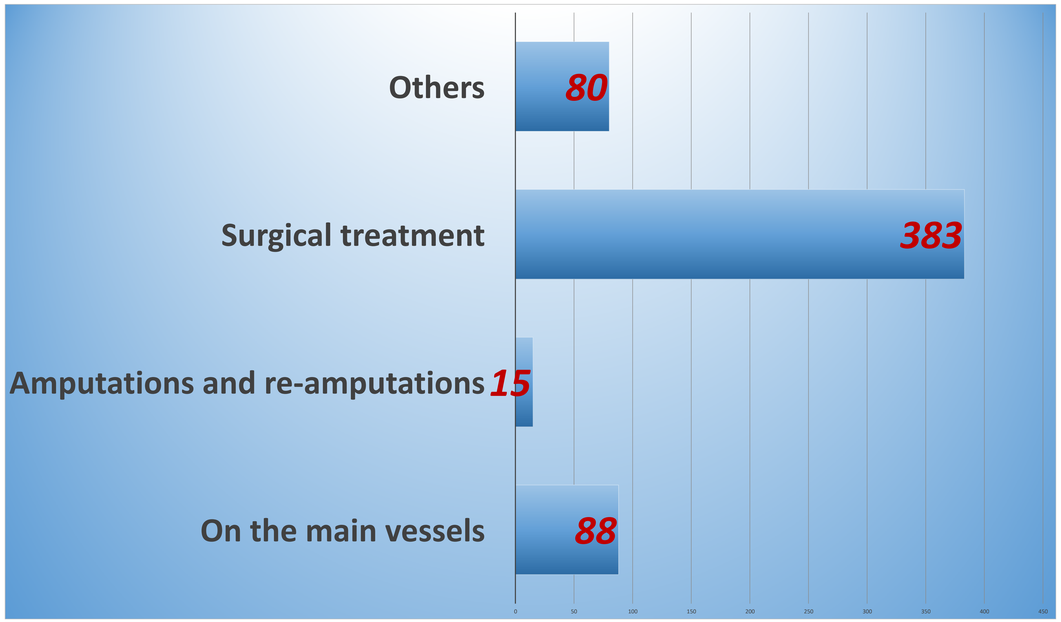




The injuries that accompanied the trauma of the main vessels included: bone injury in 19 individual (37,3%); nerve injury – in 12 individual (23,5%); bone and nerve injury in 14 individual (25,5%); isolated soft tissue injury in 12 individual (13,7%). In 26 cases the injury was isolated (45,6%) and in 31 cases (54,4%) – multiple, included: the injury of both lower or upper extremities occurred in 13 cases (22,8%), organs of thoracic cavity in 2 cases (3,5%), organs of abdominal cavity – in 2 cases (3,5%), head and neck injury – in 1 case (1,8%), injury of 3 and more anatomical areas – in 13 cases (22,8%).

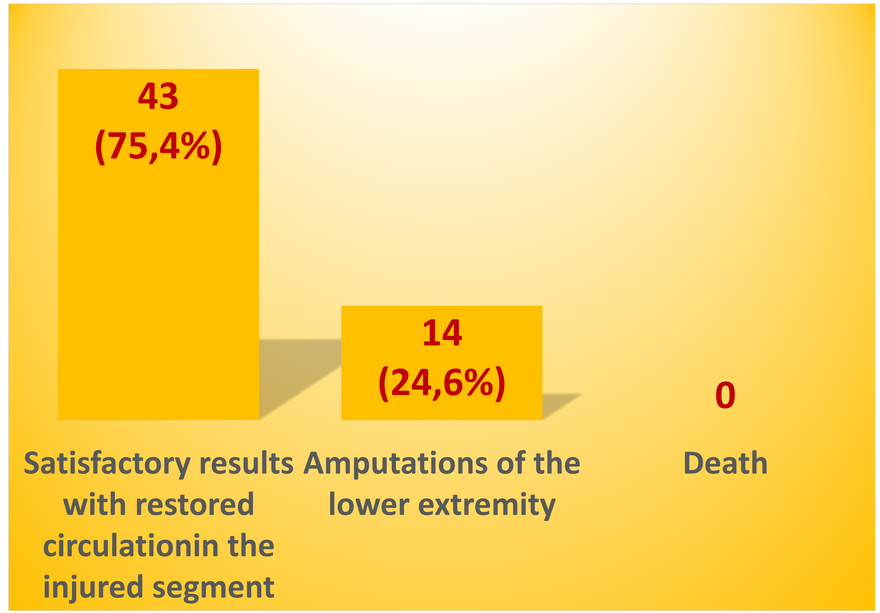
RESULTS

THE CHARACTERISTIC OF THE PERFORMED OPERATIONS



There was performed 565 operations in 57 patients; 88 (15,6%) of them – on the main vessels, 15 (2,7%) – amputations and re-amputations, 383 (67,6%) – surgical treatments, 80 (14,1%) – other.

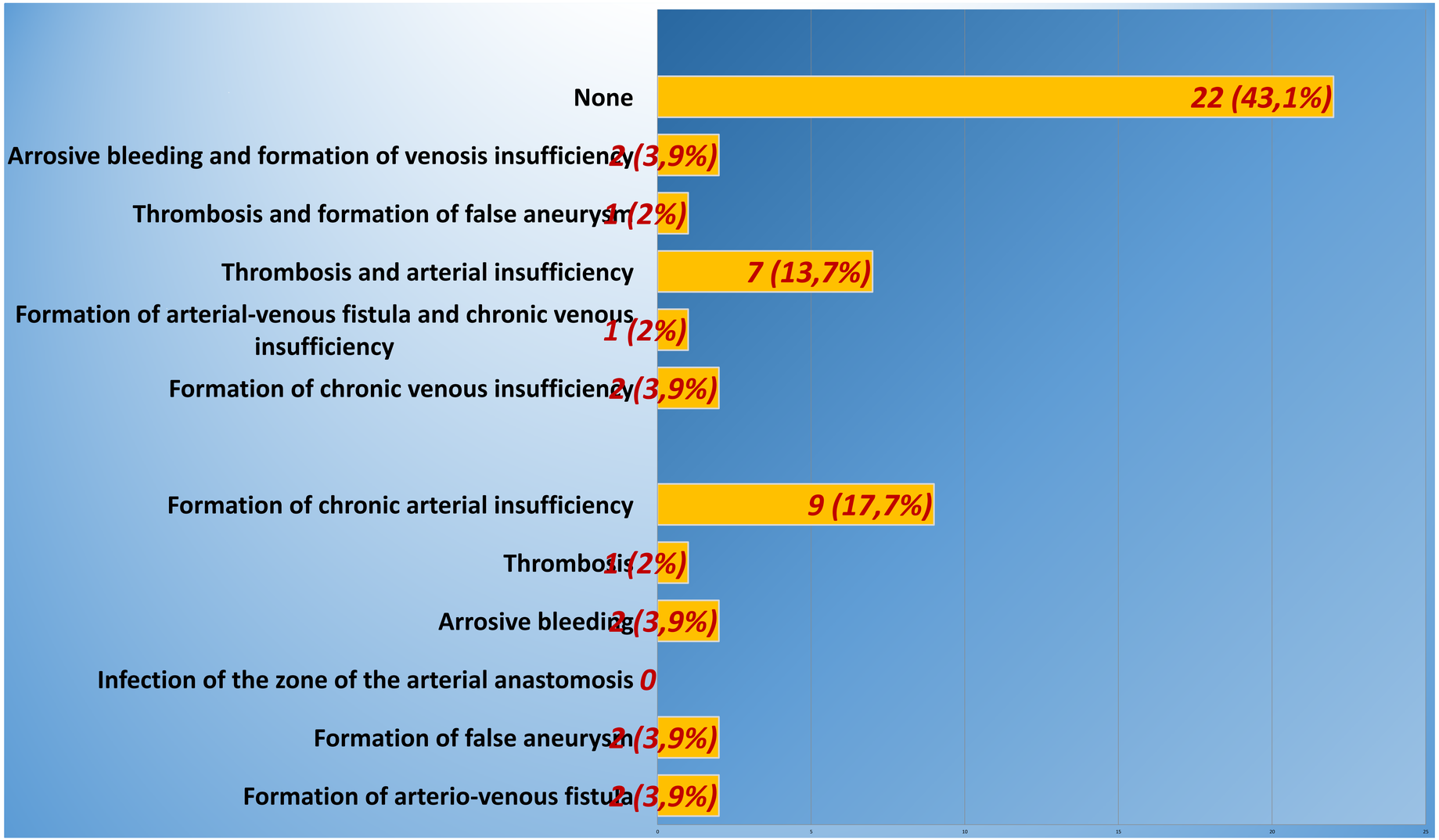
RESULTS OF THE TREATMENT



Analysing the results of treatment in 43 cases (75,4%) there was identified satisfactory result and in 14 (24,6%) – the treatment resulted in amputation.

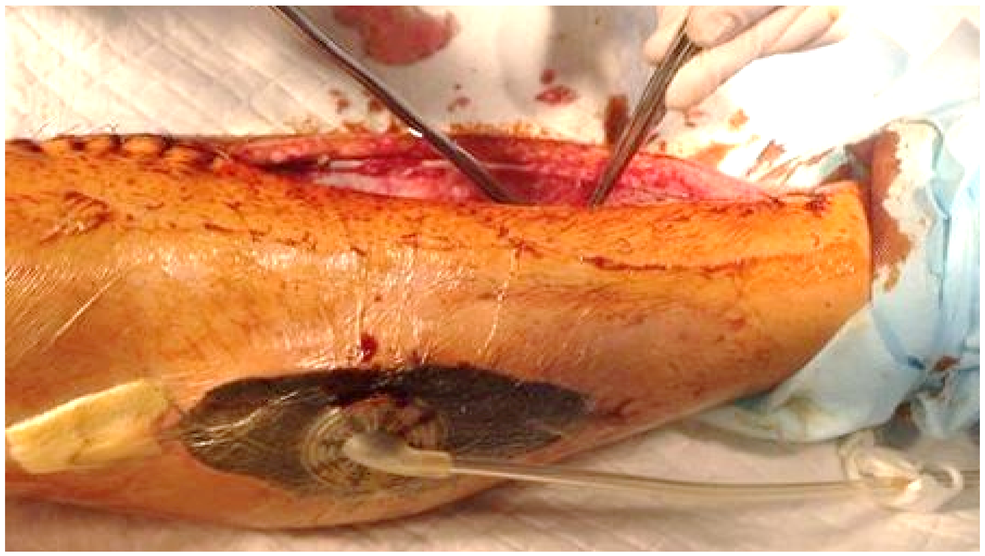
RESULTS

THE LONG –TERM OUTCOMES OF THE INJURIES OF THE MAIN VESSELS



CLINICAL CASES

DS. Gunshot shrapnel wound of the upper third of the left thigh with damage to the superficial femoral artery and vein (2nd day)



Repeated surgical treatments, adjustment of the vacuum aspiration system on the wound of the medial surface of the leg

Image of the wound on the 2nd day

On the 18th-20th day the sutures are contagious, there are no signs of active inflammation and necrosis of the wound edges

CLINICAL CASES

DS. Explosive wound with a massive tissue defect in the area of the vascular bundle

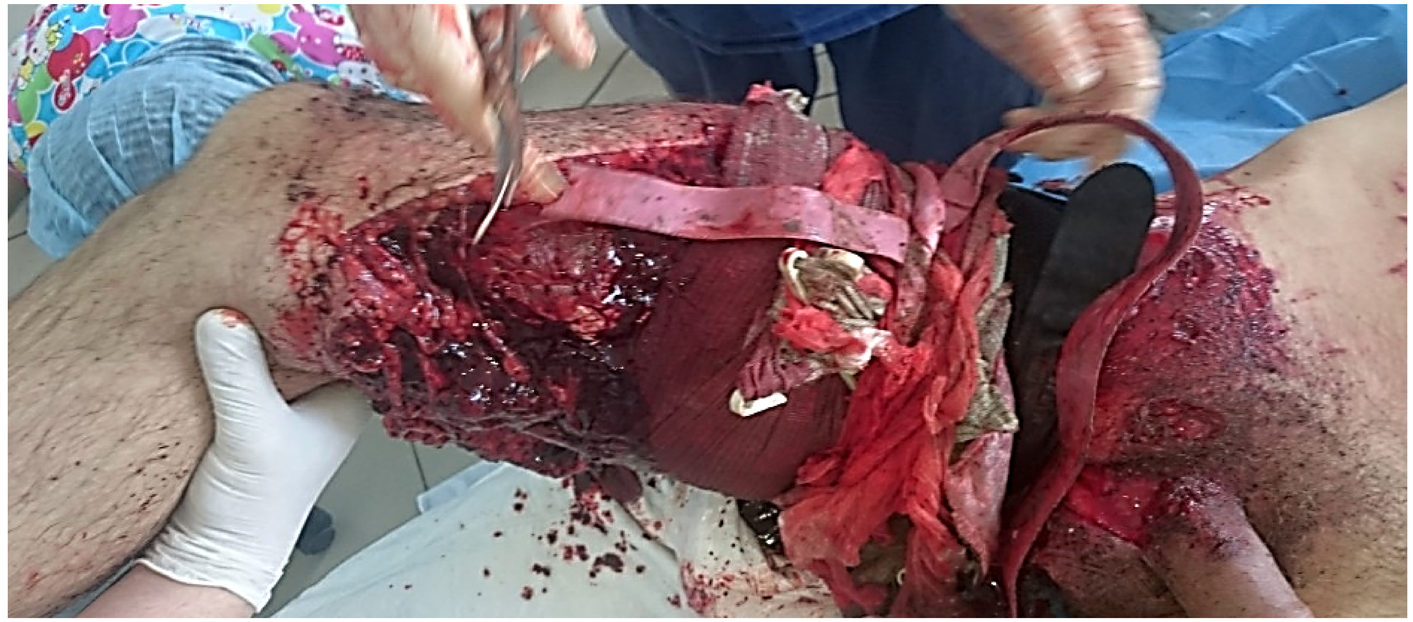


Image of a wound during first aid.

Imaging of the wound in 2 weeks at the stage of treatment.

CLINICAL CASES

Image of the wound at the stage of treatment

After treatment

CONCLUSION

Trophic ulcers and wounds are caused by several factors, so their treatment should always be comprehensive:

- **Estimation of wound area and trophic ulcer;**
- **Study of the genesis of trophic ulcers;**
- **Surgical treatment for the correction of blood flow disorders;**
- **Conservative treatment (antibiotic anticoagulant therapy, anti-inflammatory and analgesic drugs, antisecretory drugs);**
- **Rehabilitation of ulcers and stimulation of their healing with the use of topical agents;Leukocyte serum;Physiotherapeutic methods;Hyperbaric oxygenation;Ultrasonic cavitation using low-frequency ultrasound.**

THANK YOU FOR YOUR ATTENTION!!!