

***NATIONAL MILITARY MEDICAL CLINICAL CENTRE<sup>1</sup>,  
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**SURGICAL TREATMENT OF GUNSHOT MULTIPLE  
SHRAPNEL WOUND OF BRACHIOCEPHALIC VESSELS,  
TRACHEA, LUNG, STOMACH**



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# ***INTRODUCTION***

In the structure of medical losses during the hostilities in modern conditions, the share of the injuries of the extremities is more than 70% of all injuries.

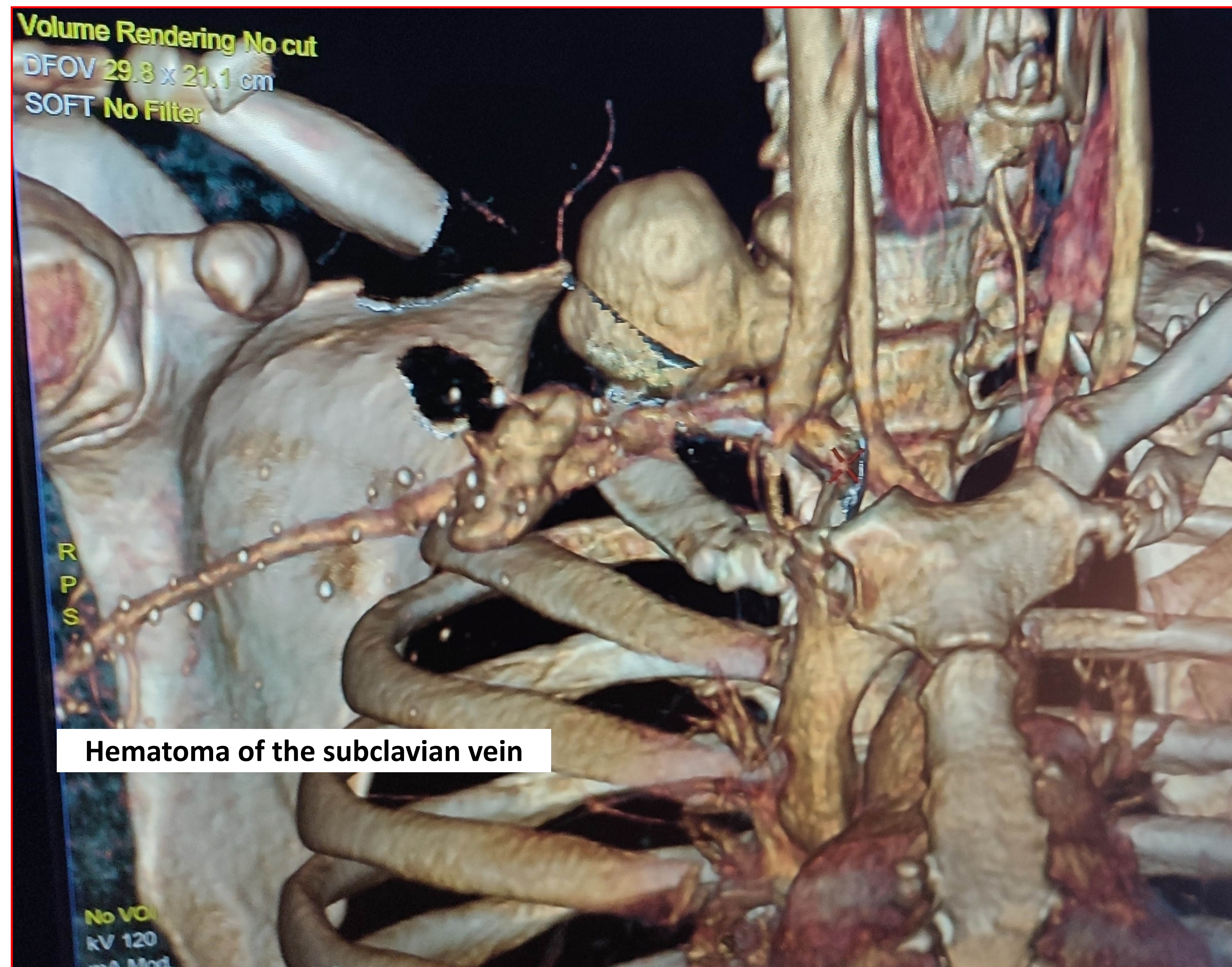
During the Russian attack on Ukraine in 2022 we have increase different cases of gunshot wounds of the main vessels of the lower and upper extremities, combined injuries, for today for the last tree month was fixated 86 cases only on our vascular surgery department, 72% of them was combainment with other area.



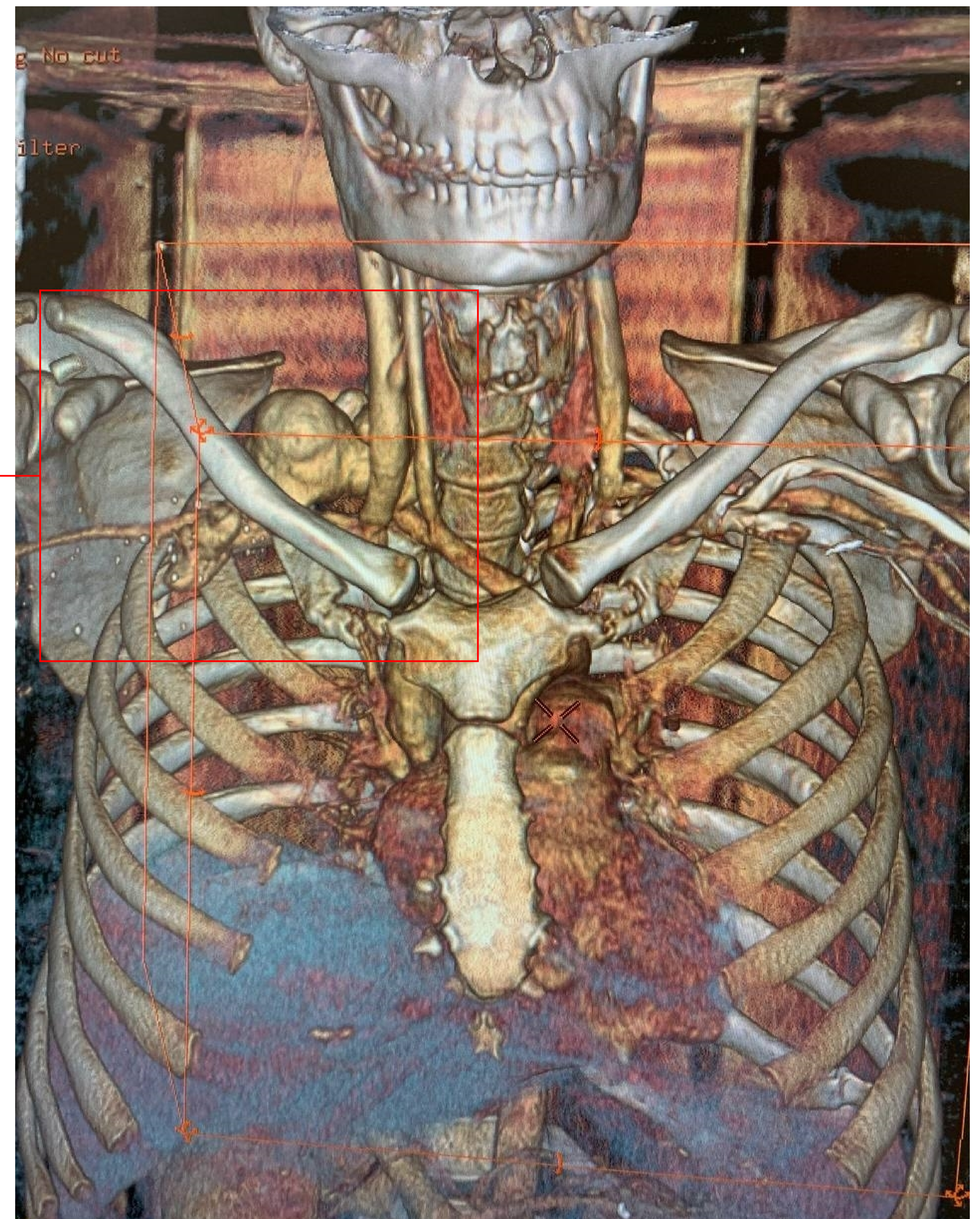
## Clinical case

**DS. Fire blind migrating shrapnel wound of the right shoulder with damage to the subclavian vein, subclavian artery; trachea, right lung, diaphragm, small curvature of the stomach.**

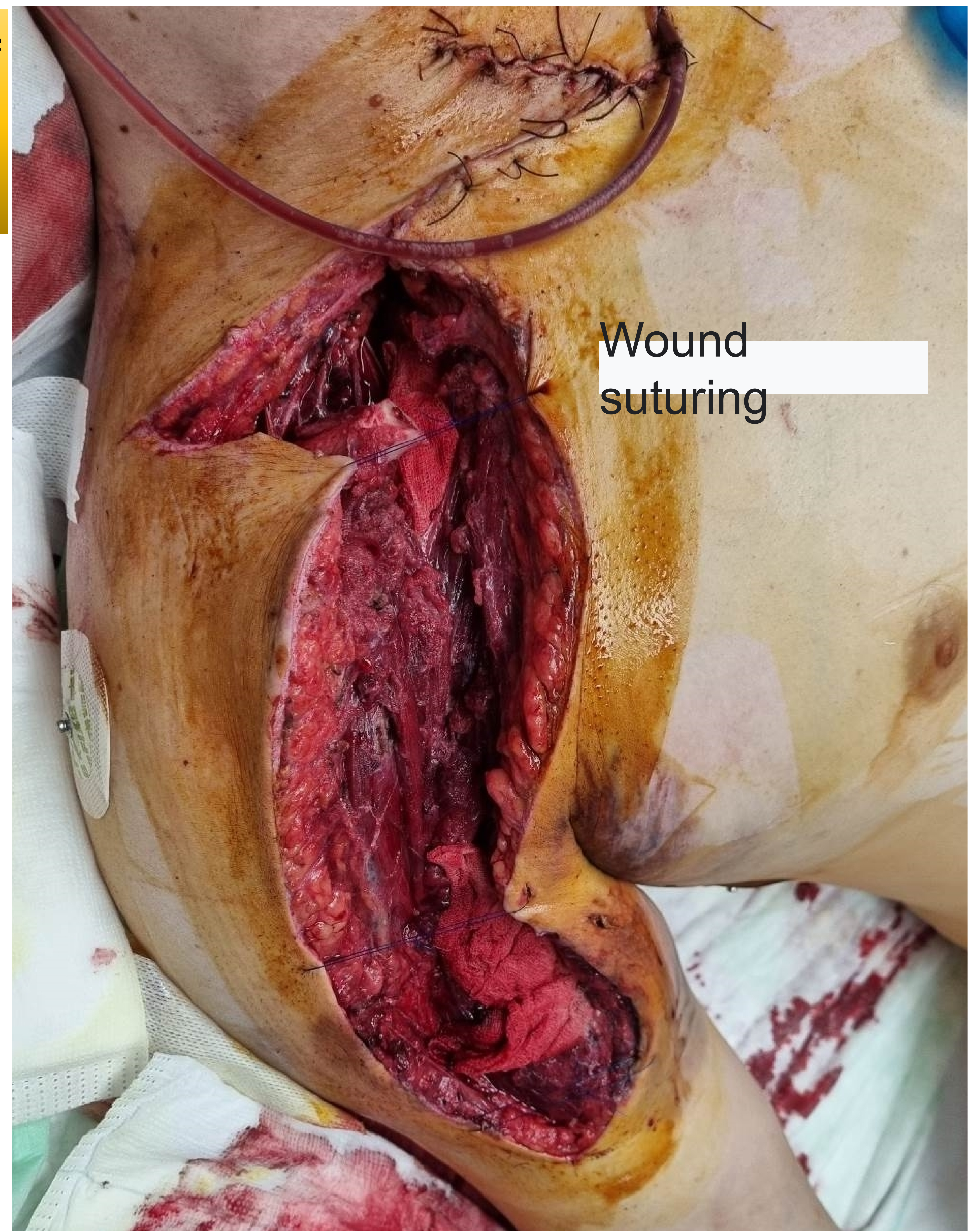
## Hematoma of the angle of the subclavian and carotid arteries

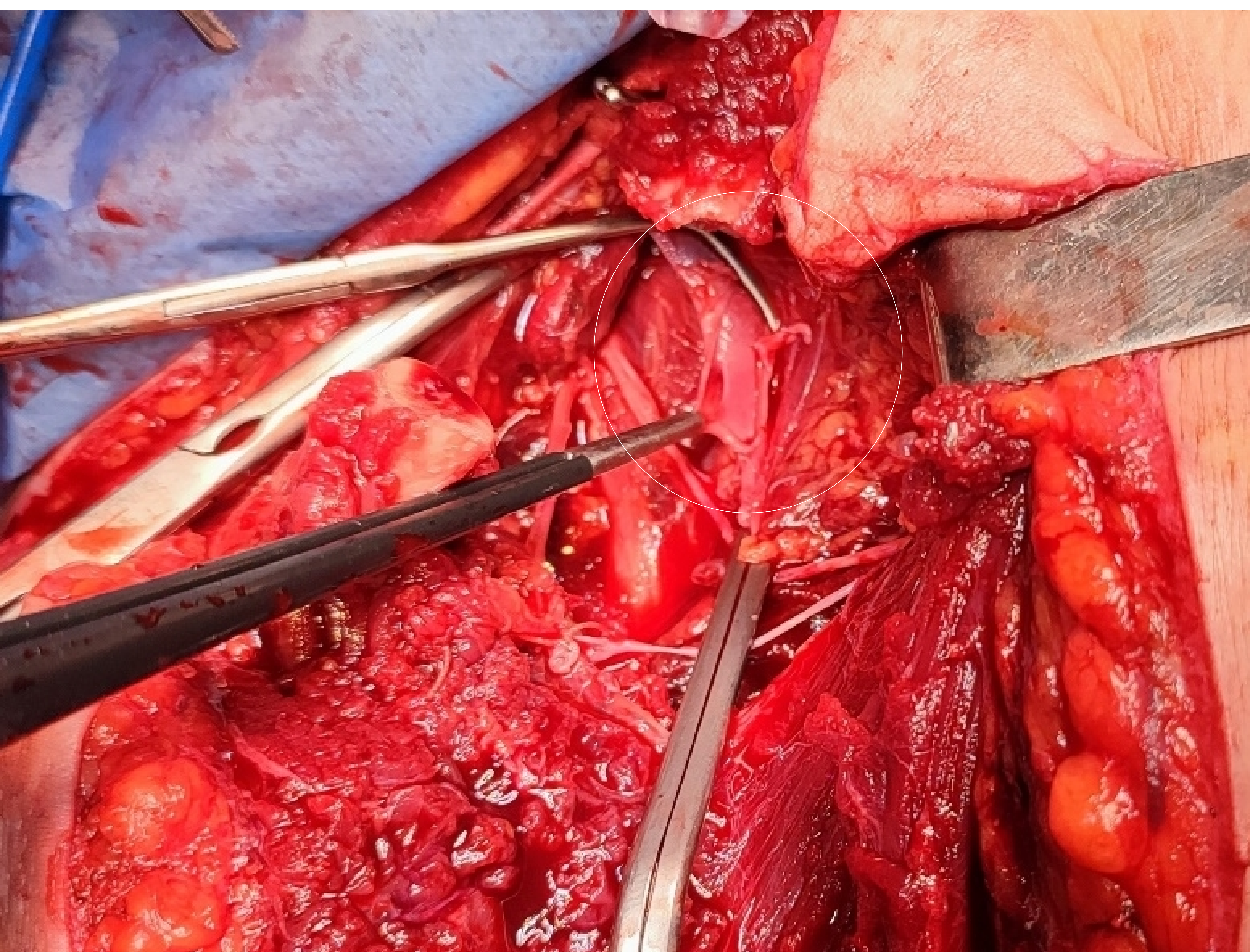


MSCT angiography: the area of lesion of the main vessels of the brachiocephalic area and a fragment of the small curvature of the stomach were visualized

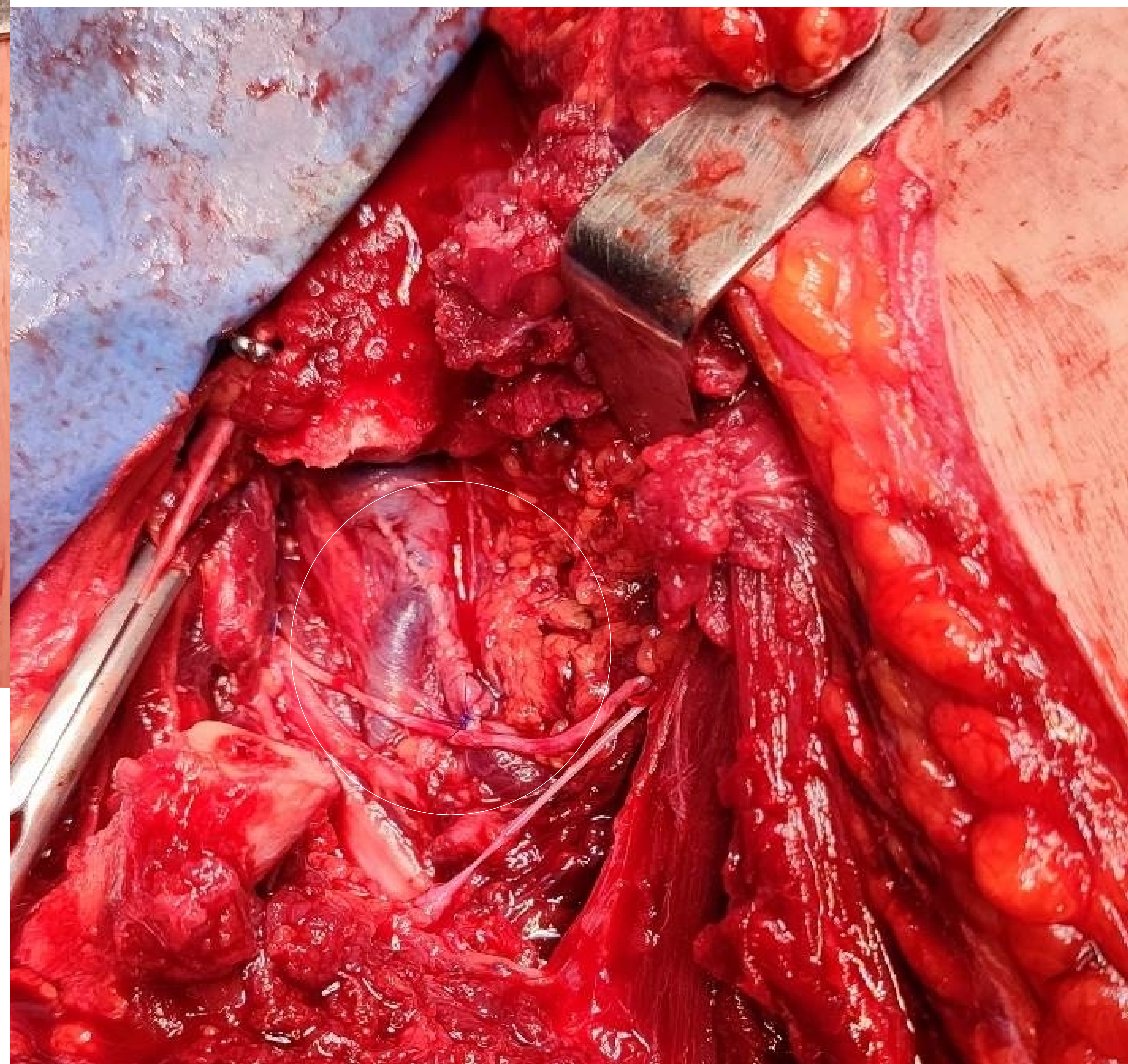


1st stage of the operation: wide access in the projection of the wound canal and hematoma with the transition to the source of bleeding in the projection of the brachiocephalic trunk, cross-section of the clavicle, cessation of bleeding





The subclavian vein defect was visualized  
and sutured



Common carotid artery

Brachiocephalic trunk

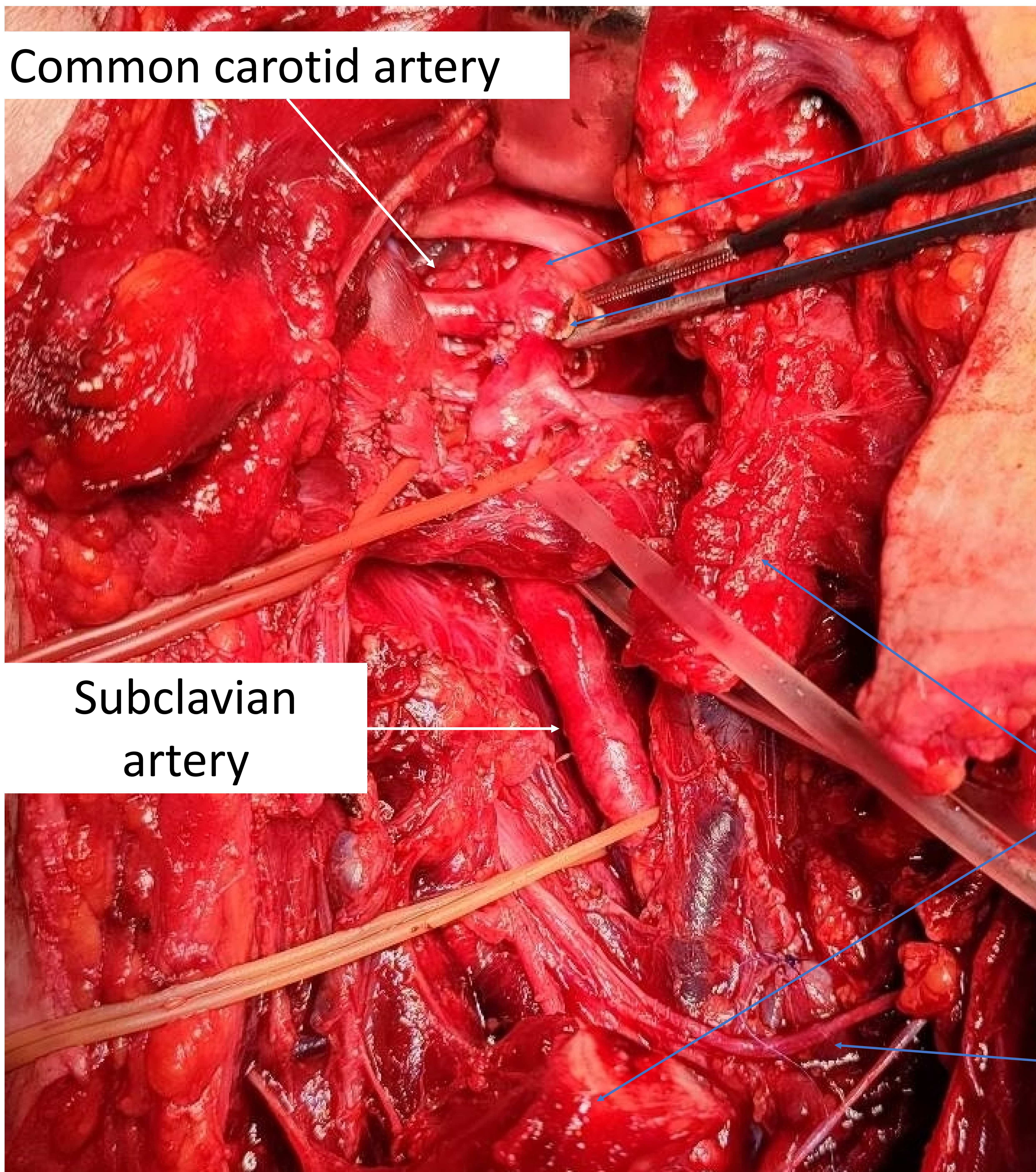
Wounding shard

Sutured sources of bleeding: the angle of the subclavian and carotid arteries, subclavian vein

Subclavian artery

Clavicle

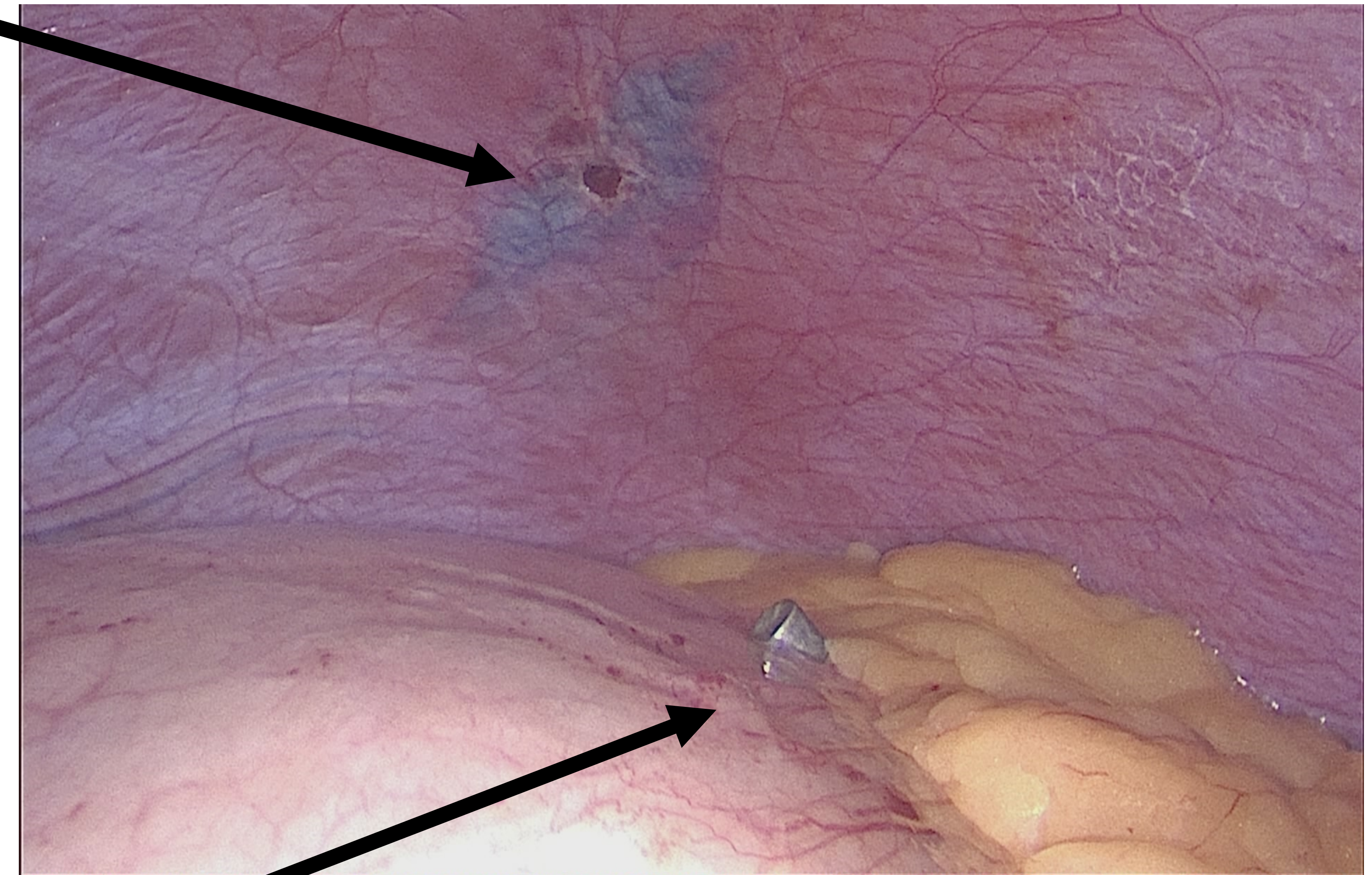
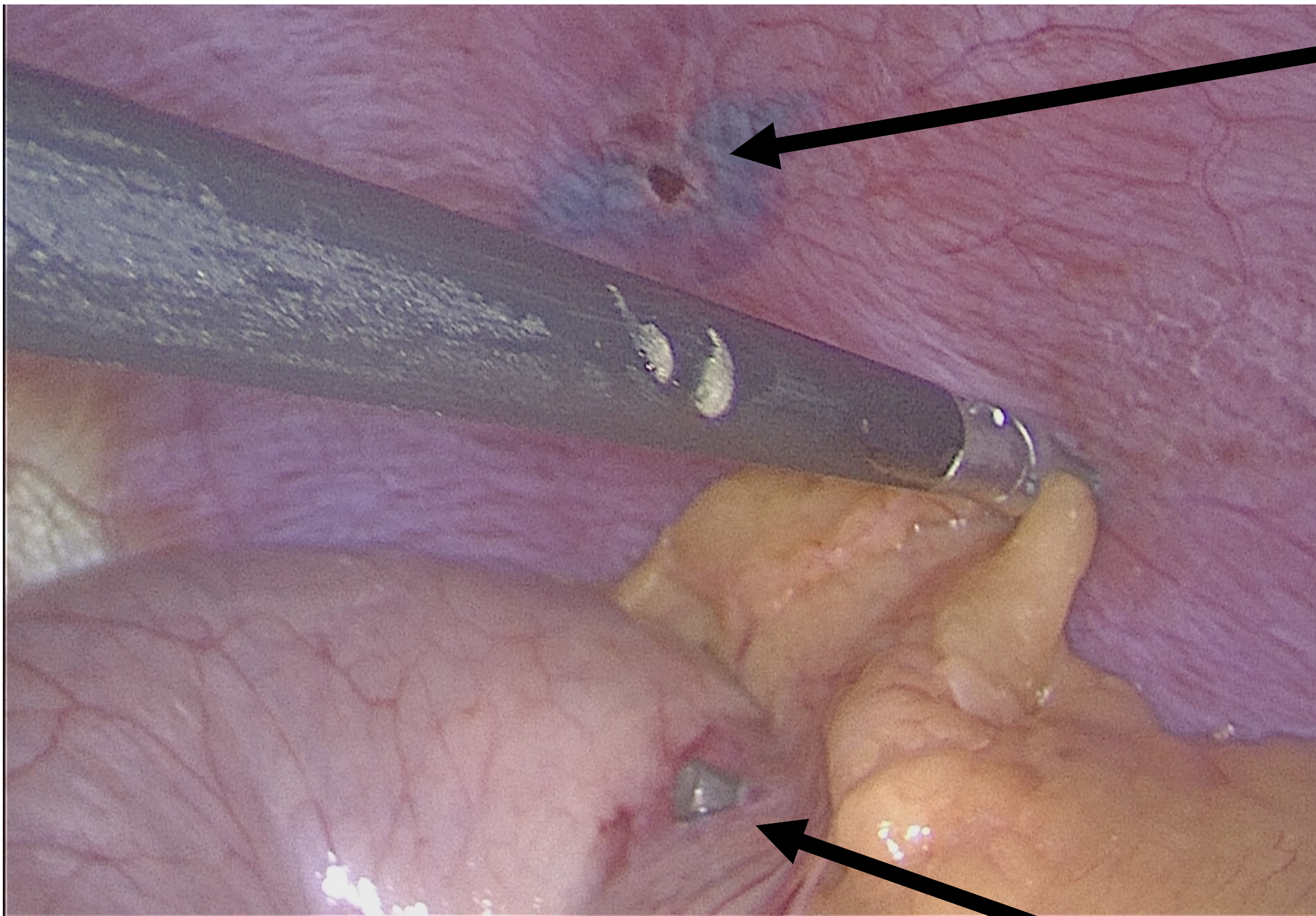
Subclavian vein



*On the 2nd stage of the operation were performed suturing of the trachea; thoracoscopy - chest organs revision, Bullau drain.*

*On the 3rd stage of the operation we performed laparoscopy - removal of the fragment, suturing of the defect .*

*Wound suturing*



**Wounding fragment on a small curvature of the stomach**

**4th stage of the operation: restoration of the integrity of the clavicle with the external fixation device**

*In the conditions of providing angiosurgical care in Ukraine, tactics of damage control are started at the institutions of the second level - mobile hospitals and district hospitals.*



# CONCLUSION

1. The first and decisive role in the successful arterial reconstruction in difficult cases with arterial damage belongs to the rapid evacuation of the wounded to the specialized level of care.
2. Despite the importance of specialized care, the prehospital phase often decides the fate of the wounded, because the reliability and adequacy of temporary cessation of bleeding from injury to delivery of the wounded to the operating room depends on the success of vascular surgery and saving lives.
3. The treatment of gunshot wounds of the main arteries is a complex multi-level process, which can be done only in the case of close cooperation of related surgical specialties. First of all they are traumatology, reconstructive and plastic surgery, anesthesiology and intensive care.

*THANK YOU FOR YOUR ATTENTION!!!*