



## To the Question of Diagnostics of Thoracoabdominal Injuries

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**Resume:** The paper presents the results of a diagnostic examination of 147 victims who were hospitalized in the emergency surgery department of the Fergana branch of the Republican Scientific Center for Emergency Medicine in Uzbekistan, with the identification of clinical and diagnostic signs of thoracoabdominal injuries.

**Key words:** thoracoabdominal injuries, diagnosis, clinical picture.

### Introduction

Thoracoabdominal injuries are among the most severe injuries in both war and peacetime, representing one of the most difficult problems of emergency surgery [7, 8, 11, 12]. Their frequency is, according to different authors, from 15.1% to 35.6% of all penetrating chest wounds [1.10]. The literature contains references to the difficulties of diagnosis, a significant number of tactical and diagnostic errors and complications in the provision of assistance to victims with thoracoabdominal injuries [2, 5, 9], due to the following factors: severe condition of the injuries, blurred symptoms due to alcohol intoxication in the majority of them, the complexity and variability of the topographic and anatomical relationships of the organs of the thoracic and abdominal cavities, damage to the powerful respiratory muscle - the diaphragm, the communication of two cavities with different pressures, damage to vital organs, massive bleeding, as well as the rapid development of purulent-inflammatory complications [4, b ].

### Materials and research methods

This paper presents an analysis of the results of examination and treatment of 147 patients with thoraco-abdominal injuries who were inpatient treatment in the emergency surgery department of the Fergana branch of the Republican Scientific Center for Emergency Medicine in Uzbekistan. The overwhelming majority of injuries with this type of injury were delivered to the hospital in the first hours after being injured. According to our observations, in the first 6 hours, 94,2% of the patients were hospitalized. In our study, stab wounds prevailed in the structure of the mechanism of injury infliction - in 98 (87.5 %) patients. Their characteristic feature was smooth edges, small size of the entrance opening (within 0.7-2.3 cm) and deep damage. The overwhelming majority of the thoraco-abdominal wounds were single. Multiple injuries, from two or more, were less common and accounted for 6.3 % of the injured. Most often, the wounds were in the area of the left half of the chest. It should be noted that through wounds with thoraco-abdominal wounds in peacetime were rare. So, in our observations, they were found in 7 (2.7%) injuries. According to our data, external bleeding from

wounds was noted in 87% of cases. Subcutaneous emphysema was most often limited. In our observations, it was detected in 36% of the victims. The diagnosis of thoraco-abdominal injury was established on the basis of the patients complaints, anamnestic data, and objective research data using additional instrumental methods. Statistical conclusions are made on the basis of data obtained using standard statistical methods [3].

### Research results and their discussion

Diagnosis of thoraco-abdominal injuries is complex, and the clinical picture is diverse, since as a result of damage, two serous cavities are opened simultaneously and there is a real likelihood of damage to one or more organs. The clinical picture of thoraco-abdominal injuries included signs of damage to internal organs, movement of abdominal organs into the pleural cavity, and acute blood loss. Such patients usually simultaneously noted the characteristic symptoms of a penetrating wound of the chest and abdominal cavity: cough, hemoptysis, release of air from the wound, chest pain on the side of the injury, aggravated by movement, with a sharp restriction of the respiratory excursion of the chest, shortness of breath and difficulty breathing, cyanosis, pneumothorax, hemothorax, hemopericardium, subcutaneous emphysema. Percussion was used to determine the shortening of sound in hemothorax and tympanitis in pneumothorax. Auscultatory - weakening or disappearance of breathing. Abdominal pain, irradiation of pain in the shoulder or shoulder girdle (Kera symptom), nausea, vomiting, abdominal muscle tension and severe tenderness to palpation and abdominal percussion when the abdominal wall is soft (Kulenkamf symptom), free fluid in the abdominal cavity or free gas in the abdomen - all this constituted the abdominal symptom complex. Rozanov's symptom (a sign of "Vanka-vstanka") was noted. With injuries of the liver and bile ducts with the subsequent development of biliary peritonitis, Finsterer's symptom arose, explained by the absorption of bile with pronounced bradycardia against the background of signs of peritonitis. In the clinic, we observed three such victims. Damage to the hollow organs was manifested by the presence of Spijarny-Clarke symptoms (high tympanitis over the liver and the disappearance of "hepatic dullness": with percussion, it is most often observed when the stomach or large intestine are injured), as well as the X-ray symptom of Jaubert (a strip or sickle of gas under the diaphragm). These signs were observed in 8 (7.2%) victims. Intra-abdominal bleeding was characterized by the classic symptoms of blood loss. There is pallor of the skin and visible mucous membranes, tachycardia, decreased blood pressure, tachypnea. The victim complains of dizziness, thirst; darkening in the eyes, flashing "flies" before the eyes, severe weakness. Considering the great difficulties in recognizing the thoraco-abdominal nature of the injury, the so-called reliable signs of thoraco-abdominal wounds are especially distinguished - the loss of the greater omentum through the chest wound or the outflow of the contents of the gastrointestinal tract from it, vomiting of coffee grounds when the entrance wound is located on the chest wall. We observed such a clinical picture in 6 (5.4%) patients. Reliable signs of injury to the diaphragm also include the movement of the abdominal organs into the pleural cavity, which is manifested by pronounced tympanitis with percussion of the chest and listening to intestinal murmurs over the pulmonary fields. Displacement of organs can occur immediately after injury or after some time. In our observations, this took place in 5 (4.5%) patients with thoracoabdominal wounds. The localization of the wound is also of some importance: the zone bounded by the sixth to seventh ribs from above, and the tenth to eleventh from the bottom is considered dangerous in relation to a potentially possible thoraco-abdominal wound. Determining the diagnosis is often difficult due to the serious condition of the patient with the presence of a large variety of symptoms. In the case of admission of victims within a short period of time after the injury, the symptoms indicating damage to a certain organ do not have time to develop, and the signs of acute blood loss and shock come to the fore.

### Conclusions

It should be noted that signs indicating damage to the organs of the chest and abdominal cavity do not appear simultaneously. Often; in the first hours after a thoraco-abdominal injury, symptoms occur that are characteristic of damage to the organs of the pleural cavity. At the diagnostic stage, they are more pronounced, and abdominal symptoms appear later. When several organs are injured, a syndrome of mutual burdening occurs, which worsens the condition of the patient and causes additional difficulties in diagnosis to determine further surgical tactics. Considering the above, when examining a victim, it is always necessary to conduct a thorough analysis and monitoring of clinical manifestations, taking into account the mechanism of injury and the type of wounding weapon.

### References

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