Introduction. Cardiac injuries today are not rare and they present a significant group of pathological cardiac diseases, with a large number of the injured (60-90%) dying before being transported to the hospital. Case report. A patient with a stab wound of the right chamber, upper abdomen and pelvis, in a state of hemorrhagic shock, was successfully managed after being reanimated. Conclusion. Good health service organization in the field and urgent transport of the injured should be obligatory in the management of heart trauma.

Key words: multiple trauma; wounds, stab; heart; surgical procedures, operative.

INTRODUCTION.

Heart injuries can be non-penetrating or penetrating, but non-penetrating injuries lead to more extensive heart damage. However, both can cause damage to any structure of the heart, major blood vessels and heart cavities located intrapericardially, along with the structures within the heart cavities. In contusion injuries of the heart, a third of the injured show no external signs of injuries to the chest, which often leads to misconceptions and erroneous diagnoses. In the fatal cases related to the non-penetrating injuries of the heart, heart valve division and ruptures of the pericardium and coronary arteries are encountered very rarely (5%), myocardial contusion with or without laceration is present in 23.6% of the autopsy findings, while the most common are ruptures of the heart (64.7%). A contusion of the heart is followed by dyspnea and hypotension with the development of cardiogenic shock of varying intensities.

Penetrating injuries of the heart are very dramatic and represent the most urgent indication for surgical intervention. Two causes directly threaten the life of the injured: bleeding and pericardial tamponade. The injured shows pronounced signs of hemorrhagic shock, and the injuries are visible on the outer side of the thorax (stab or gunshot wounds).

CASE REPORT.

In the early evening, 26.3.2007, in the Surgical Clinic Hospital Centre based in Gracanica, a car ambulance brought the injured, aged 24, with a stab wound in the left half of the chest, upper abdomen and left side of the pelvis. The injured was admitted in critical condition, unconscious, in a state of hemorrhagic shock, with no measurable pulse and blood pressure, the skin and visible mucous membranes were pale, covered with cold sweat. The head was of normal appearance, with no visible injuries or deformities. The eyeballs were stiff, pupils wide, with no reaction to light. The neck was without pathomorphological changes, the pulse above a. carotis was thin. The chest was cylindrical in shape, symmetrical, with no respiratory movements. In the area of the left hemithorax, at the level of the XIth rib, in the projection of the back axillary line there was a stab wound from which blood was flowing. An exploration, verified a length of about 10 mm, which was followed by arched ribs toward the back. The skin of the chest was stained with blood. The absence of respiratory movements and breathing noises was evident, along with an auscultative lack of heart contractions and tones. The a.radialis and a. Brachialis pulses were palpable. The abdomen beneath the plane of the chest was covered with a large amount of blood that flowed from a massive wound in the area of the epigastrium, 10 - 12 mm in length in the subxipoid region, along the median line. In the area of the left lateral side of the pelvis, at the level of the anterior superior spine iliaca there was a wound with a length of 7 - 8 mm. The extremities had no deformities, nor visible changes.
All the necessary resuscitation measures were taken in the reception, then tubes were inserted into the patient and the patient was transported to the operating room for emergency surgery. Due to a lack of appropriate instruments for a sternotomy, a median sternotomy was performed chisel, and then the pericardium was opened longitudinally. A massive hematopericardium was identified with a blood clot and partly uncoagulated dark blood. An exploration of the heart verified a transverse cut of the diaphragm wall of the right chamber, measuring 20 x 5 mm, from which flowed dark unoxygenated blood in a stream, synchronized with the contraction of the muscles.

In this situation the lesion on the right ventricular inferior wall was stitched using haemostatic sutures - prolene 3/0, then the blood clot was removed from the pericardium along with part of the uncoagulated blood. Also, the seam line in the myocardium was checked, which was satisfactory (Figure 1). The wound was reviewed at the level of the left XIth rib, at which point pean hemostat its tangential, subcutaneous course was verified, during which no signs of injury to the parietal wall of the left hemithorax were found, where the intactness of the pleura was verified, and intraoperatively, as well as postoperatively, on the developed X-ray, along with the previous debridement it was directly stitched up. Likewise, the wound was reviewed in the lateral region of the pelvis, left, at the level of the anterior superior iliac spine, which was subcutaneous, non-penetrating, and a debridement and stitching were performed.

Through the lesion on the mediastinal pleura, which was within the channel of the wound in the epigastrium, in the subxifoid region, along the median line, which went up and right, where the top of the knife damage the pericardium and mediastinal pleura, a thoracic drain was placed in the right thoracic pleural space and the hemorrhagic content was removed, and then a mediastinal drain in the retrosternal space, and both were exited through separate openings. Subsequently, an osteosynthesis with metal wires was done, along with a control of hemostasis. The stitches for the wound were made in layers (Figure 2).

The postoperative course was normal, the drains which were removing about 150 ml of hemorrhagic content were removed by the seventh postoperative day. The cardiologist was consulted multiple times and the findings were within normal limits. On the tenth postoperative day the patient was in good general condition and was discharged from the hospital. The clinical and echocardiological controls after a year were positive.

DISCUSSION.

Injuries of the heart may be closed (commotio or contusio cordis) and open. The commotion generally occurs with an impact to the pericordium, while the closed heart contusions are different due to weight - there can only be a limited edema of part of the heart with pericardial bleeding or complete rupture of the heart.

Open heart injuries are the result of a sharp weapons or a firearm, and the injury may be incomplete or complete. The entry wounds were located in the so-called danger zone, which is located on the front wall of the chest and is bounded above by the upper edge of the clavicle, lateral to the left anterior axillary line, and below by the upper edge of the IXth rib, and to the right by the upright line that goes two finger breadths from the right edge of the sternum.

Injuries of the heart may be complete - those in which the heart chambers are open, and incomplete - where we only have an injury of the heart or pericardium. Most often, the right ventricle is injured (35%), as was the case with our patient, more heart cavities (28.9%), left ventricle (23%), and left atria (2.6%).

The clinical picture is dominated by general signs of anemia, severe hemorrhagic shock and cardiac tamponade (swollen veins in the neck, the conversion of blood pres-
The diagnosis of the penetrating heart injury confirmed the pericardial puncture, which not only has diagnostic value but is also of therapeutic importance, meaning, during the pericardial puncture it is necessary to remove all the blood.

Although the condition of the injured in this case was extremely difficult, due to reanimation and emergency surgery the patient successfully recovered without developing any cardiac sequelae.

CONCLUSION.

Good health service organization in the field and urgent transport of the injured should be obligatory in the management of heart trauma.

SUMMARY

HIRURŠKO ZBRINJAVANJE UBODNE POVREDE SRCA - PRIKAZ SLUČAJA

Uvod. Povrede srca danas nisu retkost i predstavljaju značajnu grupu patoloških stanja srca u kojima veliki broj povredjenih (60-90%) umire pre njihovog transporta u zdravstvene ustanove. Prikaz bolesnika. Bolesnik sa ubodnom ranom desne komore, gornjeg dela trbuha i leve strane karlice, u stanju hemoragijskog šoka, nakon sprovedenih mera reanimačije uspešno je operativno zbrinut. Zaključak. Dobro organizovana zdravstvena služba na terenu i hitan transport pacijenta od suštinske je važnosti za zbrinjavanje trauma srca.

Ključne reči: povrede, rana, ubodna, srce, hirurgija, operativne procedure.

REFERENCE