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SEVERE ASSOCIATED TRAUMA TO THE ABDOMEN DIAGNOSIS AND TREATMENT

Mustafakulov I. B.*[1], Elmurodov G. K.[2], Djuraeva Z. A.[3] and Normamatov B. P.[4]

[1]c.m.s. Head of the Department of Surgical Diseases №. 2;
[2] of the Department of Surgical Diseases №. 2;
[3]Lecturer of the Department of Endocrinology;
[4]Teacher of the Department of Surgical Diseases №. 2;
Samarkand State Medical Institute, Samarkand Branch of RSCEMC, Samarkand, Uzbekistan.

***Corresponding Author: Mustafakulov I. B.**
c.m.s. Head of the Department of Surgical Diseases №. 2; Samarkand State Medical Institute, Samarkand Branch of RSCEMC, Samarkand, Uzbekistan.

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ABSTRACT

The results of diagnostics and treatment of 855 persons with combined trauma of the abdomen and retroperitoneal space admitted to Samarkand branch of RSCEMA during the period from 2009-2019 have been presented in the article. Of them 790 (92,3%) were operated on with closed combined trauma of the abdominal cavity. In 65 observations conservative treatment was used. The age of examined patients ranged from 17 to 89 years (33,8±13,4), with this the persons of working ability age (to 55 years), mainly men, made the majority of victims (n=426-49,82%). The cause of the trauma in most cases was a road event (n=270-31,57%) and catatrauma - (n=50-5,84%). In 320 (37,42%) victims closed combined abdominal trauma was accompanied by CCT. Alcohol intoxication was observed in 174 (20,3%) victims. Of 790 operated patients 31 (3,9%) died.

KEYWORDS: closed abdominal trauma, liver injury, "damage control".

INTRODUCTION

One of the pressing modern medical problems is severe mechanical combined injury, the number of which increases from year to year both in frequency and severity of damage.[14,15,23,24,25,26] In the general structure of peacetime injuries, the proportion of combined damage ranges from 12 to 36%.[6,7,12,13,31] The plague of the 20th century is called road traffic injuries. Over 10 million people are seriously injured as a result of car accidents each year. The number of natural disasters is not decreasing in the world.[1,2,5,8,9,10,11]

In Uzbekistan, more than 800 thousand people receive various injuries annually. It was found that injuries due to traffic accidents account for about 5% of all injuries. But these injuries are most severe in their consequences, causing almost a quarter of cases of disability and every third case of death.[12,16,17]

According to[4], combined trauma is one of the three causes of mortality. The proportion of deaths at working age is 27%, the average age is 38.5 years. Patients with combined trauma make up 8-14% of all inpatients and give more than 60% of all deaths from injuries.[18,19,20,29,32]

MATERIALS AND METHODS

For the period from 2009-2019. 855 people with combined trauma of the abdomen and organs of retroperitoneal spaces entered the Samarkand branch of the RSCEMP. The age of the studied victims was from 17 to 89 years (33.8 ± 13.4), while the majority of the victims (n = 631 - 73.8%) were people of working age (up to 55 years), mostly men (n = 426 - 49.82%). Of the 855 victims, 790 (92.3%) were operated on. Of these, 31 (3.62%) were killed. 65 (7.6%) patients with injuries of the abdomen with combined trauma were treated conservatively.

In 320 (37.42%) patients, closed combined abdominal injuries were accompanied by a head injury. In most cases, the cause of the injury was a traffic accident (n = 224–70.0%), in 46 (14.3%) of the injured, the reason for admission to the intensive care unit was unlawful injury, and in 50 (15.6%) catastrophe. Alcohol intoxication was observed in 174 (20.3%) victims.

RESULTS AND DISCUSSION

Most of the victims had no history of chronic diseases, 9 elderly patients suffered from type 2 diabetes mellitus, 15 - coronary heart disease, 5 - hypertension.

In 264 (30.87%) victims, they were admitted in a state of severe and decompensated shock. From the moment of receiving the injury, up to 3 hours from the moment of receiving the injury were hospitalized (n = 621 - 72.63%). Moreover, in the first hour after the injury, only 137 (16.02%) victims.

Of the 790 patients with combined abdominal trauma in 423 (53.5%), abdominal trauma was the predominant lesion, head injury in 164 (20.7%), chest in 61 (7.7%), and 142 (17, 9%) cases were a combination of injuries.

It should be noted that 855 victims had damage to two or more anatomical areas (880 organs).

The most common lesions were liver (131 observations), spleen (167), small and large intestine (265), damage to 12 duodenal ulcer (18), pancreas (15), stomach (54), mesenteric rupture (89), omentum(59), bladder (37) and kidney (45 injured).

In our observations, we identified two predominant syndromes: developing peritonitis syndrome and intraperitoneal blood loss syndrome. Syndrome of developing peritonitis was observed in 101 victims of injuries of the hollow organs.

With a clear clinic of internal bleeding and acute peritonitis, an emergency operation was performed in 201 victims. In the absence of confidence in the presence of internal bleeding and peritonitis, along with antishock therapy, such diagnostic methods as puncture of the pleural cavity (in 31), laparocentesis (in 40), laparoscopy (in 25), radiography: skulls (in 51), pelvis (30), spine (37), retrograde cystography (15), ultrasound (201) and computed tomography (40 patients).

Most often, with closed trauma, damage to the parenchymal organs 298 (34.85%) in combination with damage to the intestines (44), bladder (15), and kidneys (12) is noted. Moreover, damage to the liver, spleen, kidneys, extensive retroperitoneal hematomas were most often observed with damage to the chest, pelvis and spine. Upon receipt of signs of internal bleeding, 105 (35.32%) of the injured and 26 (8.72%) patients with signs of peritonitis were noted.

Of these, in 298 (34.85%) with liver and spleen injuries, management tactics were determined depending on the severity of the patient's condition, the volume of hemoperitoneum, the intensity of blood loss, and hemodynamic parameters.

Of 131 patients operated on, in 10 patients with liver tears of the IV and V degrees according to Moore, bleeding was stopped according to the "Damage control". He performed a second operation 3-4 days after hemodynamic stabilization, liver fractures were sutured in 9 patients, and 1 "Damage control" was applied in the next, after 72 hours later the liver rupture was sutured with a favorable outcome. The following methods of stopping bleeding from liver wounds were used: suturing the wound, tamponade with an omentum on the leg, surgical treatment of the wound with its subsequent suturing. In all cases, the area of the sewn wound on the liver was drained with a vinyl chloride tube.

All patients required transfusion of cryoprecipitate of the corresponding blood group, on average, 3.5 ± 0.3 doses, 12 patients - freshly frozen plasma of 350.80 ± 55.8 ml for each patient, and 7 patients 250.5 ± 40.0 ml of donated red blood cells masses.

By the 7th day of treatment with sonography and computed tomography, free fluid in the abdominal cavity was not detected.

The use of modern technologies (ultrasound, CT, video laparoscopy) allows the conservative treatment of injuries of the liver and spleen in hemodynamically stable patients to be successfully performed. There were no complications and deaths associated with the use of conservative therapy.

Mortality among 131 operated patients with injuries of parenchymal organs was 1.53% (2 patients).

Of the 18 patients with injuries and injuries of duodenal ulcer, 2 (11.1%) patients limited to primary suture. In 6 (33.3%) cases, the primary suture of the duodenum was supplemented with cholecystostomy and drainage of the omental bursa, a decompression probe in the duodenum was transnasally installed for active aspiration, and an intestinal probe for nutrition was performed for the Treitz ligament. In case of damage to more than half of the circumference of the duodenum, the primary suture was supplemented by simple diverticulosis of the duodenum (1 case), in 2 cases, duodenum was diverticulized according to Donovan-Hagen (antrumectomy, stem vagotomy, gastroenteroanastomosis on a long loop, cholecystostomy), in 3 cases, the patient was left with nourishment Witzel. With hematomas, duodenum was limited to the evacuation of hematoma with subsequent drainage of retroperitoneal tissue - 2 (11.1%) cases. In 2 cases, due to late treatment and the development of diffuse peritonitis, operations were completed with laparostomy for programmed sanitation of the abdominal cavity. In the last 3 (16.6%) cases, duodenojejunostomy on a long loop with Braun anastomosis using prolenic atraumatic threads was applied to the damaged area of the duodenum and transnasally installed a decompression probe in the duodenum for active aspiration. In the last 3 cases of the postoperative period, complications from the imposed anastomosis were not observed.

A fatal outcome among victims with a duodenal ulcer injury occurred in 5 patients died of a duodenal injury, with a mortality rate of 27.7%. The causes of death were: severe closed TBI and PON in 2, severe combined polytrauma with hemorrhagic and traumatic shock against profuse intra-abdominal bleeding from the vessels of the pancreatoduodenal zone - 3. In addition, they all had a concomitant pathology (coronary heart disease, chronic obstructive pulmonary disease ,urolithiasis), aggravated prognosis.

At the present stage of treatment of patients with damage to the duodenum, it remains a difficult task requiring further study.

265 patients with various injuries of the intestine were operated on. In 145 (54.7%) patients there was damage to the small and large intestines, and in 120 (45.3%) - injuries of the intestine were combined with trauma to other organs of the abdominal cavity.

The correct preoperative diagnosis of intestinal damage or combined damage to the intestine and other organs of the abdominal cavity was established in 207 (78.1%) of 265. In doubtful cases, laparocentesis and laparoscopy were widely used, the sensitivity of which was 95-97%. Preoperative preparation should be short-term (no more than 1-2 hours) and intense. The median laparotomy is the method of choice. After laparotomy, we pay special attention to the examination of the abdominal organs, conducting it in a certain sequence. In the presence of blood in the abdominal cavity, first of all, they found the source of bleeding and stopped it. In 147 (55.5%) cases of damage to the small intestine were multiple, therefore, surgeons should not be satisfied with finding one damage and carefully examine the weight of the intestines.

Suturing of the rupture of the small intestine was performed in 236 (89.1%). Resection of the damaged intestinal tract from 30 cm to 90 cm in length was done in 29 patients (10.9%). At the final stage of the operation, a thorough toilet of the abdominal cavity and nasointestinal intestinal intubation were performed. Drainages were left as indicated.

In the postoperative period, the main attention was paid to the prevention and treatment of peritonitis. Mortality was 10.9% (29 words). The cause of death in patients was: multiple and combined injuries (skull, chest), progressive peritonitis due to late treatment and treatment started late, as well as pneumonia.

We analyzed 15 cases of pancreatic damage. Closed abdominal trauma, as the cause of acute traumatic pancreatitis, was in 12 patients (a direct blow to the epigastric region - 6, a fall from a height - 4, a road traffic injury - 2). In 3 cases, the cause of OP was a stab wound. In all the victims, pancreatic injury was combined with damage to other organs and systems (liver, spleen, stomach, small and large intestines, retroperitoneal hematoma, brain and spinal cord injury, chest damage, etc.).

Acute traumatic pancreatitis developed due to general (traumatic shock) and local changes. With mechanical damage, local changes in the pancreas are caused by traumatic parenchyma necrosis, secondary destruction as a result of vascular damage and duct damage with the active pancreatic secretion.

It must be emphasized that all variants of pancreatic lesions require antisecretory, antienzyme, antibacterial and detoxification therapy.

Depending on the nature and location of the lesion, the following types of surgical treatment of pancreatic injuries (acute traumatic pancreatitis) are used, based on the principles of adequate drainage of the lesion zone, removal of apparently non-viable tissue of the gland, restoration of passage or rational abduction of pancreatic juice: hemostasis and drainage of the lesion zone - in 5 patients, autopsy and emptying of retroperitoneal hematomas - in 4, drainage of the damaged pancreatic duct - in 3, left-sided resection I pancreas - in 2, disabling the duodenum - in 1 patient.

Of the 15 patients with dominant pancreatic damage, 6 people died (40%). Of these, 5 had severe destructive traumatic pancreatitis and 1 had parapancreatitis and peritonitis.

It should be specially noted that further progress in improving the results of the complex treatment of acute traumatic pancreatitis we see in the joint work of surgeons, intensive workers, gastroenterologists and researchers in various fields of medicine.

The main cause of death (35.4%) was acute massive blood loss combined with traumatic shock. Fatalities due to blood loss occurred in the first hours after admission or in the first days after surgery. The second reason for the frequency of deaths was purulent-inflammatory complications (25.8%) and nosocomial pneumonia (16.9%).

CONCLUSION

With combined abdominal trauma, the scope of the operation consists in the radical elimination of injuries, the reconstruction of disturbed anatomical relationships of the abdominal organs.

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