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FEATURES OF OPTIMIZATION OF DIAGNOSTIC AND SURGICAL TACTICS IN MULTIPLE AND COMBINED INJURIES OF ABDOMINAL CAVITY ORGANS IN CHILDREN

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Annotation: Abdominal injuries remain one of the most urgent problems in surgery, traumatology and intensive care. In peacetime, abdominal injuries account for 1.5-4.4% of all injuries. The structure of injuries fluctuates due to accidents, falls from heights, natural disasters. But a significant place in this structure is occupied by the criminalization of society, which has increased in recent years. Taking into account that in diagnostics and treatment there are still complicated cases leading to certain complications, this problem remains very urgent.

Keywords: Surgical tactics, abdominal cavity, surgery, trauma, diagnosis, multiple and combined trauma.

Relevance: Population studies have shown that the incidence of gastric injuries in children is about 1% (according to different authors from 0% to 1.7% in the structure of closed abdominal trauma [3].

Out of 203 children with closed abdominal trauma, gastric rupture was observed in only one child, which is 0.5% [1]. The following frequency of hollow abdominal organs in children is indicated: stomach (5%), 12-intestine (5%), jejunum (83%), ileum (10%), and colon (10%) [5]. In direct impact to the stomach, the small intestine is most commonly injured at 65%, whereas the stomach is injured at 2% [8].

The mechanism of closed trauma of hollow organs is associated with direct compression of the organ between the spine and an external impacting object, rupture of the organ due to a direct blow to the stomach and a sharp increase in pressure in the lumen of the organ, the gap between its fixed part and the loose part [11]. In 60% of cases, rupture occurs when the stomach is filled due to its distension and increased intra-abdominal pressure at the moment of impact. Rupture of the organ is caused by the forces of acceleration and inhibition when the stomach is detached at the site of fixation. Gastric injury in children is determined by such anatomical features as a more convex abdomen with wide protruding edges of the rib arches that cannot protect the stomach, underdeveloped musculature of the anterior abdominal wall, thinning and relaxation of its tissues [6].

Most cases of gastric trauma are associated with automobile accidents (74%). Direct blow to the stomach as a mechanism of injury accounts for 10%, and falls account for 8% [7,10]. Several important factors contribute to gastric injury. When the stomach contains food masses and fluid, the likelihood of injury due to external influences increases. The significance of injury increases with decreased anterior abdominal wall tension in children. Hollow organ rupture in closed trauma results in intraluminal pressure, which increases the resistance of the organ wall. According to Laplace's law,

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the transmural pressure (P) is directly proportional to the ratio between the tension (T) and the radius (R) of curvature or bend. The formula P=K(T/R) is a mathematical description of this law, where K is a geometric constant indicating that an increase in intraluminal pressure results in rupture of the organ at the point of greatest radius. Hence, the greater curvature of the stomach will be the most frequent area of rupture. Also, the anterior wall of the stomach is more frequently injured than the posterior wall. The mechanism of delayed gastric rupture is the initial partial rupture of the layers of the organ wall, which eventually becomes full-thickness [5,9].

Injury to the stomach is not uncommon due to compression between the seat belt and the spine in car accidents or when the epigastric region is struck sharply against the handlebars of a bicycle. Injury in a child wearing a seatbelt occurs due to a sudden kinking of the torso around the seatbelt.

Study objective: To improve the results of emergency surgical aid to children with traumatic injuries of abdominal cavity and retroperitoneal organs by improving the methods of early diagnostics and developing new medical and tactical technologies in the conditions of the Ural industrial region.

Materials and methods of research: Methods used: method of theoretical analysis of literature sources and normative documentation, questionnaire, empirical, mathematical-statistical and analytical.

Results of the study. In the structure of traumatic injuries of abdominal cavity and retroperitoneal organs in the group of surviving children, isolated injuries are found in 54% of children, mono-associated - in 16.8%, sex-related - in 24.4%, multiple - in 4.8%. In fatalities due to transportation and catatrauma, polyassociated injuries predominate - 98%; in other external impacts, 44% of cases are isolated injuries. The informativeness of general clinical signs at closed traumatic injuries of abdominal cavity and retroperitoneal organs is in low confidence limits - 0,23-0,31 and does not allow to prove the degree of damage of abdominal cavity organs. Internal organs and the volume of internal bleeding. Methods of ultrasound and computer scanning have informative signs of the degree of destruction of organ parenchyma and the amount of hemoperitoneum within 0.9-0.94, which provides timely diagnosis of internal bleeding.

Application of clinical triage scale in traumatic injuries of abdominal cavity organs and retroperitoneum in children, based on the criteria for assessing the severity of the condition, hemodynamic control, hemoglobin values, degree of traumatic shock, volume of blood loss, on ultrasound and CT signs of severity of organ rupture and volume of hemoperitoneum, hemoretroperitoneum with the allocation of therapeutic and tactical groups: stable group, which made up 44.6% of victims, conditionally stable group - 26.6% of children and unstable group - 28.8% of patients, reduces the number of diagnostic and therapeutic-tactical errors at the stages of providing qualified and specialized surgical care for children in 1.3-1.9 times.

The essence of the working classification of traumatic injuries of the abdominal cavity and retroperitoneal organs reflects the multifaceted characteristic of this type of injuries in children, is based on intracorporeal criteria of severity of organ ruptures and clinical classification of injured children into therapeutic and tactical groups. According to the classification up to 81% of abdominal cavity and retroperitoneum injuries belong to stage I-III injuries accompanied by hemoperitoneum of small and medium degree up to 65% of clinical cases.

The developed differentiated therapeutic tactics in children with internal bleeding in case of damage of parenchymatous organs of abdominal cavity and retroperitoneum using the results of clinical division of children into therapeutic and tactical groups allowed to reduce the number of open surgical interventions. surgical interventions by 80.2%, to apply organ-preserving surgical tactics

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based on conservative methods of treatment - 28.4% and laparoscopic interventions - 51.8% of children with ultrasound and CT control.

Involvement of forces and means of the territorial center of medicine of catastrophes for rendering emergency surgical, resuscitation aid and evacuation of children with traumatic injuries of abdominal cavity organs and retroperitoneal space to the children's surgical center is an effective system of interaction, reduces the time for obtaining primary consultation with a specialist to 20-30 minutes, rendering specialized care on site within 2-3 hours, in remote areas within 4-7 hours. In the work of children's consultative and evacuation teams, clinical triage into medical and tactical groups allowed objectifying the criteria of children's transportability and improving the provision of specialized care for children with traumatic injuries.

The proposed method of antispaecal therapy at conservative and laparoscopic treatment (residual hemoperitoneum), after open surgeries for traumatic injuries of parenchymatous and hollow organs of abdominal cavity reduces the risk of intestinal adhesions by 6.8 times.

Outcome: Combined abdominal trauma is one of the most complex problems in emergency medicine. Due to its polyvalence it requires involvement of many specialists - resuscitators, surgeons, neurosurgeons, traumatologists, all subspecialists, as well as immunologists, specialists of diagnostic services, rehabilitation treatment and psychologists.

Timely determination of the nature of organ damage and the severity of the patient's condition allows timely implementation of the entire cycle of emergency care, including resuscitation and surgical methods.

Thus, despite the many publications devoted to the issues of TTG in children, mortality remains quite high. The issues of targeted use of ultrasound, laparoscopy and CT are still debatable. There is no clear algorithm of therapeutic and diagnostic tactics in TTG, which necessitates further research.

Referens

1. Garbuzenko D.V. Selected lectures on urgent abdominal surgery / D.V. Garbuzenko - Saarbrucken, Germany: LAP LAMBERT Academic Publishing GmbH&Co., 2012. - 99 p.
2. Ermolov A.S. Abdominal trauma: a guide for doctors / A.S. Ermolov M.Sh. Khubutia, M.M. Abakumov. - Moscow: Vidar Publishing House - M. - 2010 - 504 p.
3. Sabirov Sh.R. Organ-preserving principles of hemostasis in case of damage to parenchymal organs: dissertation ... of a doctor of medical sciences. / Sh.R. Sabirov - M., 2006. - 348 p.
4. Timerbulatov V.M., Fayazov R.R., Khasanov A.G., Kayumov F.A. Organ-preserving and minimally invasive surgery of the spleen / V.M. Timerbulatov, R.R. Fayazov, A.G. Khasanov, F. A. Kayumov. - M.: MED press-inform, 2004. - 224 p.
5. Chumakov A.A. Indications for therapeutic-dynamic videolaparoscopies for penetrating wounds of the abdominal cavity / A.A. Chumakov, V.N. Malashenko, A.N. Khoreev, S.V. Kozlov // materials of the second scientific-practical conference of surgeons of the North-West and the 23rd Republic of Korea together with the St. Petersburg Research Institute of Emergency Medicine. Prof. I.I. Dzhanelidze. - Petrozavodsk. - 2000. - S. 93-94.
6. Shevchenko Yu.L. Intraoperative ultrasound in private surgery / Yu.L. Shevchenko. - M., 2006. - 240 p. 3
7. 7 Shankar K. R. et al. Oral contrast with computed tomography in the evaluation of blunt abdominal trauma in children. Brit J Surg 1999; 86(8): 1073-1077.
8. Taylor G.A. Posttraumatic peritoneal fluid: is it a reliable indicator of intraabdominal injury in children? J Pediatr Surg 1995; 30(12): 1644-1648.

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9. Ozturk H. et al. The prognostic importance of trauma scoring systems for morbidity in children with penetrating abdominal wounds: 17 years of experience. J Pediatric Surg 2002; 37(1): 93-98. 10. McVay M.R. et al. Throwing out the "grade" book: management of isolated spleen and liver injury based on hemodynamic status. J Pediatric Surg 2008; 43(6): 10721076.
10. Visrutaratna P, Na-Chiangmai W. Computed tomography of blunt abdominal trauma in children. Singapore Med J 2008; 49(4): 352-358