

# Therapeutic and diagnostic tactics for the treatment of bleeding from varicose veins of the esophagus and stomach due to portal hypertension in children

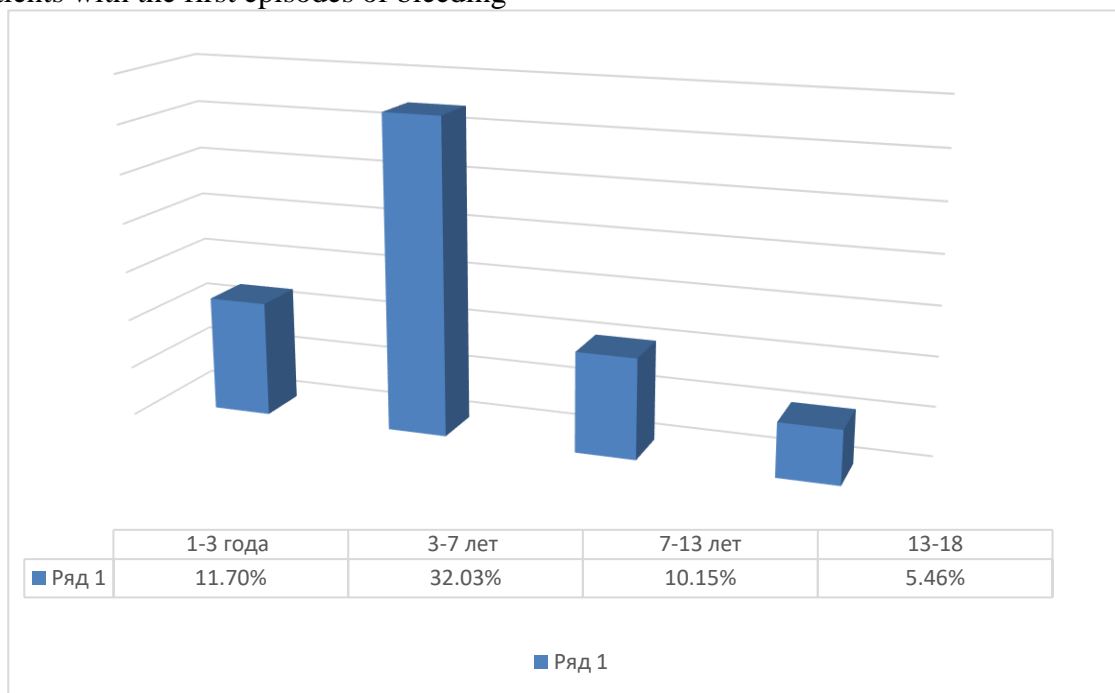
Akilov Kh.A., Abduvalieva Ch.M., Pirimov F.Z., Kosimov K.N., Eminov R.I.  
Andijan State Medical Institute  
Andijan branch of RNCEMP

**Relevance:** According to the World Health Organization, regardless of the causes of portal hypertension syndrome (PG), it is one of the serious problems of pediatric surgery. In 80% of cases, children have extrahepatic PG (HSV) against the background of a developmental abnormality or portal vein thrombosis. PFA with PG in children are characterized by a sudden onset, high intensity and low effectiveness of conservative therapy.

**Key words:** portal hypertension, bleeding, children

## Materials and methods:

In the departments of pediatric surgery of the AF RNCEMP and the Andijan Regional Children's Clinical Hospital, for the period from 2001 to 2021, 128 children with CP were examined and treated. Age of patients with the first episodes of bleeding



## Results:

Patients admitted with acute esophageal-gastric bleeding were urgently performed EFGDS. Endoscopic examination of the esophagus and stomach revealed VRV of the I degree - in 12 children, II degree - in 26 patients, III degree - in 50 and IV degrees - in 40 patients. The source of bleeding in 69 children was detected in the esophagus (in c / 3 and n / 3) in 9 patients in the cardiac part of the stomach. In all patients with bleeding of 1 or 2 degrees, bleeding was noted after an increase in body temperature and taking NSAIDS, and after EFGDS it was revealed that they had VRV in the stomach. An additional risk factor for bleeding from VRVP is esophagitis of various (mild, moderate and severe) degrees.

In the treatment tactics of profuse PGK in children with PG, we adhered to the following principles:

1. *Effect on the source of bleeding:* the stomach was probed (with a conventional nasogastric probe), which allowed for constant evacuation of blood, gastric contents and control of bleeding intensity. Washed

the stomach with cold saline solution to clean waters, then injected lagodene or decoction of lagochilus 10-30 ml, depending on age, 3 times a day and closed the probe for 30 minutes. Cold on the epigastric region. Meals, fluids through the mouth were completely excluded until the bleeding stopped completely.

2. *Reduction of portal pressure:* to reduce portal pressure, oxytocin 0.1 ml / year of life was used with an interval of 6 hours, intramuscular, or pituitrin at the rate of 1 unit / kg per day.

3. *Effect on the blood coagulation system:* to increase platelet adhesion and reduce capillary permeability, dicinon was used at 10-5 mg / kg, divided into 3-4 doses of intravenous blood. A decrease in fibrinolytic activity of the blood was achieved by intravenous administration of epsilon - aminocaproic acid -5% in ml / kg, depending on age, with an interval of 6 hours, intravenously, drip. In order to stimulate the physiological mechanisms of the blood coagulation system, vikasol was administered intravenously. To compensate for coagulation factors blood systems in patients with a decrease in PTI indicators below 60% transfused single-group freshly frozen plasma - 5 ml / kg fractionally.

4. *Compensation for blood loss and the fight against hypoxia:* plasma-substituting solutions (rheopolyglucin, etc.) were excluded from therapy in order to prevent a sharp rise in systemic **blood pressure**, which is directly related to **PD**. The basic drugs for infusion therapy were 5-10% glucose solutions and balanced saline solutions. Replenished blood loss in partial volume, kept patients in a state of controlled hypotension until bleeding completely stopped. Blood transfusions with a single-group erythrocytic mass were carried out according to strict indications, with a decrease in patients' HN below 60 g / l, fractionally, at the rate of 5-10 ml / kg.

5. *Reducing the effect of stomach acidity on the source of bleeding:* in order to reduce the effect of stomach acidity on VRV, antacid-H<sub>2</sub> blockers-ranitidine, famotidine, proton pump inhibitors-omez, omeprozole or analogues, astringent and enveloping drugs, such as almagel in an age dosage of 10-15 ml / day divided into 2-3 doses and sea buckthorn oil 2.5-5 ml 3 times / day, were used.

6. *Reduction of the resorptive effect of blood:* every 4-6 hours, patients underwent cleansing enemas. This procedure had a certain diagnostic value in controlling the intensity of bleeding. The main indicator for monitoring the effectiveness of conservative therapy was the shock index, determined hourly. Children entered the clinic mainly with shock index indicators according to shock 2 and 3 degrees. Against the background of conservative therapy, after 6 hours, this figure was reduced in 17 patients, but it was possible to achieve complete hemostasis in 29 patients. So effective hemostasis after conservative therapy in patients with intrahepatic PG was achieved in 60% of cases, in children with HSV in 26.2% of cases. In 33 patients (76.7%) after 12 hours of conservative therapy, it was not possible to stop the PFA, which was a direct indication for surgical intervention.

At the height of bleeding, the Pacior operation was performed in 25 (45.45%) patients, Nazirov's operation - 16 (29.09%), Tanner-Bairov's operation - 14 (25.46%). In order to monitor the effectiveness of surgical correction of PG, endoscopic examinations were performed 2-3 months after surgery and in a remote period every 6-12 months.

Long-term follow-up focused on the degree of regression of recurrent bleeding and phlebectasia. To do this, every 6 months after the operation, patients underwent a two-stage examination. At the first stage - an objective assessment of well-being, an examination was carried out covering recurring episodes of bleeding, At the second stage - control of FGDS in order to control phlebectasia.

#### **The complex of postoperative therapeutic measures included:**

1. To counteract the aggressive effects of gastric juice on the mucous membrane of the digestive system, astringent antacids were used (almagel in doses of 10-15-15 ml / day in 2-3 doses and 2.5-5 ml of retail fat per day.

2. To normalize the motor-evacuation function of the digestive system, 10-15 ml of cerucal, duphalac per day were used, bowel cleansing was performed by repeated siphon enemas.

3. Antibiotic therapy - broad-spectrum antibiotics.

4. To stimulate the regeneration of the mucous membrane of the stomach and esophagus, B vitamins and retail oil were prescribed.

5. Hepatoprotectors (ursofalk, essentielle, karsil, LIV-52, heptral, hepamertz) were used in patients with ED, taking into account the possibility of activating the cirrhotic process and for the prevention of liver failure, of which preference was given to hepamertes.

The absence of bleeding, subjective improvement of well-being, primary healing of postoperative wounds, lack of activity of the cirrhotic process indicate that the postoperative period proceeds well.

If, despite hemostasis, the cirrhotic process in the liver is activated, the appearance of ascites is considered a satisfactory course of the postoperative period.

The operation was considered unsatisfactory in the presence of postoperative relapse of COPD, the development of symptoms of spleen infarction (pain syndrome manifested by hyperthermia), submucosal abscess and the formation of liver failure.

In the postoperative period, after Pacior's surgery, it was noted: good results in 3 (13.6%) patients, satisfactory - in 9 (40.9%), dissatisfaction -10 (45.4%). In 2 patients with suppuration of the postoperative wound, the wound healed a second time, in 1 patient on the 14th day after the operation, ascites appeared, which was eliminated.

In the postoperative period, after Nazirov's operation, in 5 cases (31.25%), good results were observed, satisfactory - in 9 (56.25%), unsatisfactory - in 2 (12.5%) patients. In one patient, symptoms of hyperthermia and paresis persisted for 3 days after the operation. After 3 days, the patient's condition improved.

After surgery, bairov's circular suturing of the stomach out of 14 (25.46%) children who had circular sutures on the abdomen after surgery had a good postoperative period, 6 (42.86%) had a satisfactory period, 2 (14.28%) had an unsatisfactory course. One patient developed ascites, and this condition improved slightly with the addition of diuretics. One patient developed clinical signs of acute liver failure after surgery, and this condition was eliminated by the 4th day after surgery. In this group, the patient died against the background of an increase in liver failure.

Thus, in the postoperative period of observation of various types of AR in the near future, of the total number of patients, good results - 81.82% (55 people), satisfactory - 9.09% (5 people), unsatisfactory - 9.09% (5 people). Recurrence of bleeding was registered in 1 person (1.8%) (after ligature transection of the stomach according to Nazirov), lethal result - in 1 patient (2.3%) (after circular suturing of the stomach according to Bairov).

The absence of recurrence of bleeding from VKV is one of the effective indicators of APR surgery. Bleeding from phlebectasis was observed for up to 5 years in 70% of patients after surgery. According to Bairov, recurrence of bleeding was observed in 28.2% of patients after applying circular sutures to the stomach and in 25% of patients after ligature transection of the stomach according to Nazirov. In the group of patients who underwent abdominal surgery, the frequency of bleeding lasting up to 5 years was relatively low - 25% of cases.

Three months after the operation, 23 children underwent an endoscopic examination, and a year later, 18 children underwent an endoscopic examination. During the examination, attention was paid not only to the degree of clarity of varicose veins, but also to their intensity, changes in the mucous membrane of the esophagus and stomach.

After Bayrov's surgery, within 6 months of applying circular sutures to the abdomen, 4 (40%) of patients had VKV in the upper third of the esophagus disappeared, and 4 (40%) patients had VKV in the stomach. Up to 12 months, varicose veins of the middle third of the esophagus disappeared in 5 (50%) patients, varicose veins of the stomach - in 2 (20%) children. After 12 months, 6 (60%) patients of I degree, 3 (30%) patients had II degree, and 1 (10%) of the child had III degree OF VCV.

After The Nazirov operation, ligature transection of the stomach for 3 months in 1 (25%) of the child - in the upper third of the esophagus, in 1 patient - loss of VKV in the stomach. When examined after 12 months, it was found that in 1 (25%) of the child - in the middle third of the esophagus, in 1 (25%) of the patient - loss of VKV in the stomach. The plexus of varicose veins disappeared within 6 months after the operation. 12 months after the operation - 2 (25%) I degree, 3 (75%) patients - II degree VKV.

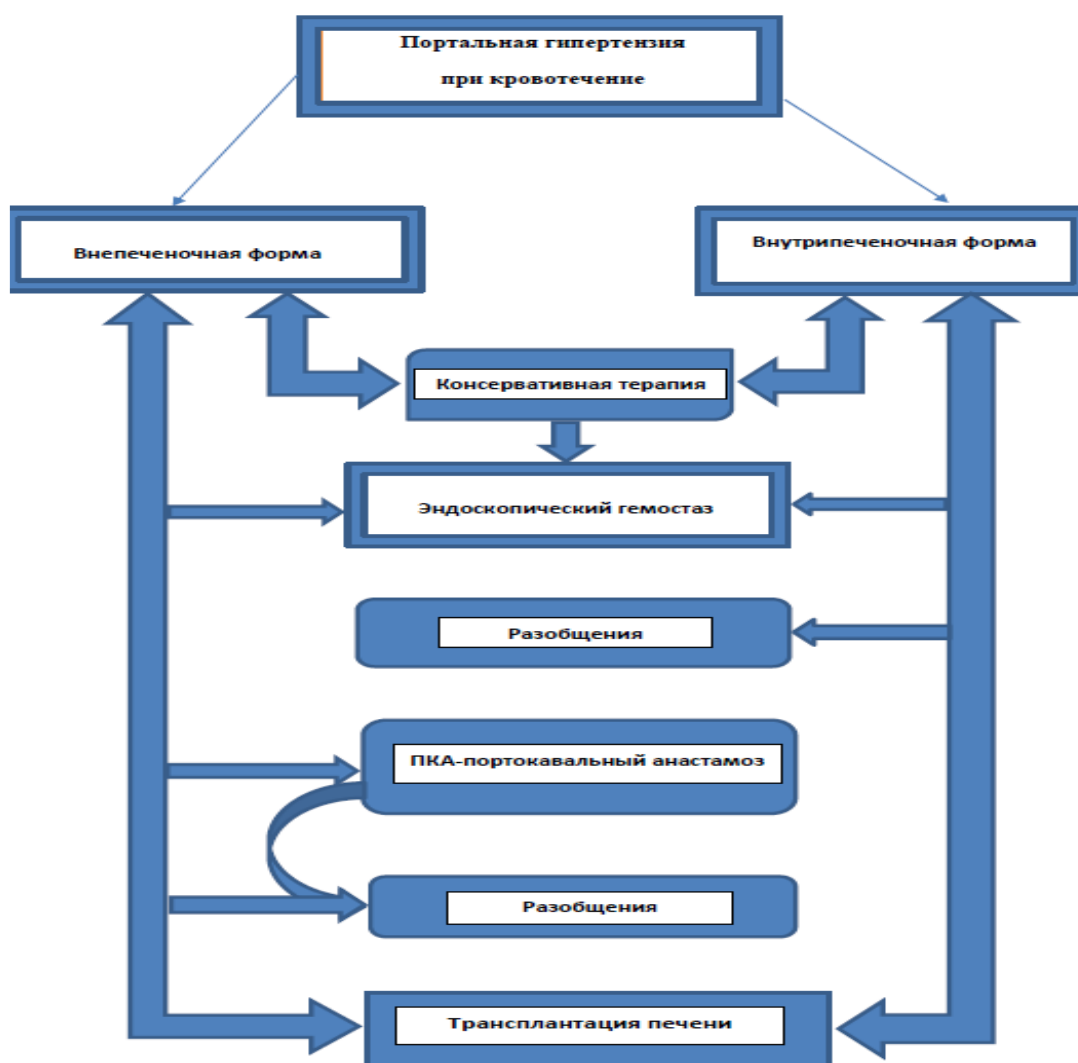
Thus, in addition to confirming the fact of bleeding in a patient with a well-known PG syndrome, in our opinion, it is very important to confirm its topographic localization. The use of endoscopic cuffs or a Blackmore probe to tamp the varicose veins of the cardia can increase bleeding in the distal areas of exposure in the case of localization of the source.

Prophylactic EL was performed on a group of patients with VRVP and F iii and IV degrees (12 patients). The complexity of radical treatment in the form of portocaval anastomosis is shown due to the younger age of the child, the presence of contraindications to prolonged anesthesia, due to concomitant pathologies. The risk of postoperative bleeding after prophylactic EL in children of III and IV degrees of bypass surgery and the risk of re-bleeding are indications.

In this group of 17 children with HSV and 1 person with Extra-PGV, it should be noted that the effectiveness of endoscopic treatment of the level of VRVP and F IV degree is low (20%), which is associated with the accumulation of a wide variety of varicose veins on the anterior and upper walls of the subcardia and the bundle of the stomach, which is difficult to perform. high-quality endoscopic sclerotherapy. Sometimes during endoscopic sclerotherapy, active bleeding occurs, requiring timely surgical intervention. Prophylactic ES with a change in the state of varicose veins from III and IV to II degree was effective in patients with varicose veins of III and III - IV degree (66.7%, 57.1% and 66.7%, 60%, respectively).

Based on the foregoing, we proposed an algorithm for treating children with PG (Fig. 2).

The clinic has developed a therapeutic and diagnostic algorithm that takes into account the peculiarities of bleeding from RRPZHsyndrome in children of CP.



The figure shows the algorithm for choosing the tactics of treatment of children with CP, complicated by bleeding from varicose veins of the esophagus and stomach.

Thus, within 3-12 months, the dynamics of circular suturing of the stomach according to Bairov, ligature transection of the stomach according to Nazirov and, to a lesser extent, Pacior's operation was approximately the same. Although the diameter of the VRV decreased during the first 12 months after

Pacior's surgery, their voltage remained. At the moment, patients with varicose veins did not have circulating sutures in the stomach according to Bairov and ligation of the stomach according to Nazirov.

Pacior's operations, circular suture according to Bairov, ligation of Nazirov's stomach 3-4 years after the operation revealed the development of new varicose veins, and by the age of 5 years after the operation, they were close to the initial values before the operation. In patients, phlebectasia regression stopped after 4 years, and by the age of 5 there was a slight increase with minimal risk of bleeding.

In our opinion, the operation of ligation intersection of the stomach, circular sutures through all layers of the stomach in the Bairov operation allows you to completely separate the two systems and reduce intramural blood flow along the walls of the stomach. A relatively long-term hemostatic result was achieved after the imposition of blood circulation of the stomach according to Bairov and ligation of the stomach according to Nazirov.

However, recurrence of bleeding was observed in 31% and 28% of observations, respectively. We believe that this phenomenon is associated with the preservation of collaterals in the lower third of the esophagus. Our views are confirmed by the dynamics of VKV regression in the postoperative period. It was found that the circulation of phlebectasia after Pacior's operation stops after 6-12 months and reaches the initial level by 3 years. According to Bairov, the stomach comes to the initial level after the imposition of blood circulation and ligation of the stomach according to Nazirov.

The analysis showed that if the operations were performed in children at an early age, then the recurrence of bleeding does not depend on the appearance of surgical interventions.

The effectiveness of these operations in patients of different age groups was analyzed in order to determine the need for such compounds.

### Conclusions:

Thus, our studies have shown that in children with portal hypertension, the abdominal stage of the operation is the most optimal method of stopping bleeding from the varicose veins of the esophagus and stomach. The best results were obtained in patients after Tanner-Bairov's operations and Nazirov's operation for the total separation of the gastroesophageal collector.

Pacior surgeries are preferred in children because of the very low trauma at the peak of bleeding from the esophagus and gastric IRV and the fact that they are performed in a very short period of time. We also approved the use of Tanner-Bairov surgeries in young children without opening the stomach.

In the presence of appropriate conditions, we recommend the endoscopic method of hemostasis - ligation of VRI in all forms of PG.

Nazirov's operations on total separation are the most optimal method of carrying out operations in a delayed form.

Based on the proposed algorithm, we recommend performing ACL after EL in HSV, first performing EL at the peak of bleeding in app, and then referring patients for transplantation.

### Literature

1. Averin V.I., Zapolyansky A.V. Surgical methods of treatment of portal hypertension in children // News of Surgery, 2009. T. 17. No. 2.– pp. 65–70.
2. Aliyev M.M., Adylova G.S., Sadykov M., Khudaibergenov Sh. Sever'flebectasium and frequency of esophageal-gastric bleeding in children with congenital portal hypertension // Pediatric surgery, 2010.No1. – S. 16-19.
3. Aliyev M.M., Yuldashev R.Z., Adylova G.S. The influence of portosystemic shunting on renal blood flow in children with portal hypertension // Pediatric surgery, 2015. T. 19. №3. pp. 4–8.
4. Bulanov K.I. Assessment of the risk of bleeding ozvarikosno dilated esophageal veins in patients with decompensated cirrhosis of the liver // Actual issues of treatment with portal hypertension syndrome. – SPb., 1999. – P. 36–37.
5. Volynets G.V., Evlyukhina N.N., Filin A.V. et al. Determination of the degree of violation of the structure of the liver and the severity of portal hypertension of children // Experimental and clinical gastroenterology, 2015.No1 (113). – P. 2835.
6. Volynets G.V., Evlyukhina N.N., Filin A.V. et al. Structure and functions of the furnace and their

- 
- disorders in chronic diseases of the hepatobiliary system in children // Vestnik Rossiiskoi akademii medicinskikh nauki, 2015. T. 70. No. 2. – P. 203–213.
7. Getman N.V. Age-related histotopography of the portal vein in the norm and at the portal hypertension // Kuban scientific medical vestnik, 2016. No. 3. – P. 39–43.
  8. Hetman N.V. Histometry of splenic and gate veins in the norm and prisynndrome of portal hypertension in the age aspect // Kubanscientific medical bulletin, 2017. No2 (163). – P. 49–53.
  9. Getman N.V., Minaev S.V., Sumkina O.B., Romaneeva N.M.Histostructure and histometry of the splenic vein in the norm and portal hypertension // Medical Bulletin of the North Caucasus, 2014. T. 9. No. 2. – P.58–62.
  10. Dvoryakovsky I.V., Ivleva S.A., Dvoryakovskaya G.M. et al.Modern technologies of ultrasound diagnostics of cirrhronic liver diseases in children // Russian pediatric journal, 2016. T. 19. No. 4. – P. 202–208.