

DIFFERENTIATED APPROACH TO CHOOSING A TREATMENT METHOD FOR ESOPHAGEAL BLEEDING

Khakimov M.Sh., Ashurov Sh.E., Kushiyeu J.X., Kodirova G.R.
Tashkent medical academy

Abstract

The results of examination and treatment of 401 patients with esophageal bleeding due to cirrhosis were analyzed. 187 patients made up the control group, where traditional treatment tactics were undertaken. The main group included 214 patients, for whom the choice of treatment method depended on the localization of varicose veins and the intensity of bleeding, depending on the scale of hemorrhage intensity we proposed.

In the first degree, active venous bleeding is noted. Due to high portal pressure, the jet hits the opposite wall of the esophagus or the blood quickly closes the endoscope chamber or it is generally impossible to determine the source due to the intensity of the bleeding. In the second degree, blood oozing or drip bleeding is noted. In the third degree, the varicose vein is covered with fresh blood clots or a "ripe cherry" symptom is observed. In the fourth degree of bleeding, no bleeding is observed; there are platelet-fibrin plugs protruding into the lumen of the esophagus from the esophagus (symptom of the "white nipple").

The differentiated approach we proposed to the choice of hemostasis method for bleeding from the ventricular vein allowed us to increase the efficiency of primary hemostasis from 85,6% to 92,5%, reduce the frequency of recurrent bleeding from 14,4% to 7,5%, and reduce the rate of open surgical interventions with 8,0% to 2,1% and reduce the mortality rate from 17,1% to 7,9%.

Keywords: esophageal bleeding, classification, endoscopic hemostasis.

QIZILO'NGACHDAN QON KETISHINI DAVOLASH USULINI TANLASHGA DIFFERENSIAL YONDASHUV

Xakimov M.Sh., Ashurov Sh.E., Kushiev J.X., Qodirova G.R.
Toshkent tibbiyot akademiyasi

Annotatsiya

Siroz tufayli qizilo'ngachdan qon ketgan 401 nafar bemorni tekshirish va davolash natijalari tahlil qilindi. 187 nafar bemor nazorat guruhini tashkil etdi, bu erda an'anaviy davolash taktikasi qo'llaniladi. Asosiy guruh 214 bemorni o'z ichiga oldi, ular uchun davolash usulini tanlash varikoz

tomirlarining lokalizatsiyasiga va qon ketishining intensivligiga, biz taklif qilgan qon ketish intensivligining ko'lamiga bog'liq edi.

Birinchi darajada faol venoz qon ketish qayd etiladi. Yuqori portal bosimi tufayli jet qizilo'ngachning qarama-qarshi devoriga uriladi yoki qon tezda endoskop kamerasini yopadi yoki qon ketishining intensivligi tufayli manbani aniqlash umuman mumkin emas. Ikkinchi darajada qon oqishi yoki tomchilab qon ketishi qayd etiladi. Uchinchi darajada, varikoz tomirlari yangi qon quyqalari bilan qoplanadi yoki "pishgan gilos" alomati kuzatiladi. Qon ketishining to'rtinchi darajasida qon ketishi kuzatilmaydi, qizilo'ngachdan qizilo'ngachning bo'shlig'iga chiqadigan trombosit-fibrin tiqinlari mavjud ("oq so'rg'ich" belgisi).

Qorincha venasidan qon ketishda gemostaz usulini tanlashda biz taklif qilgan differensial yondashuv birlamchi gemostaz samaradorligini 85,6% dan 92,5% gacha oshirish, takroriy qon ketish chastotasini 14,4% dan 7,5% gacha kamaytirish va tezligini kamaytirish imkonini berdi. ochiq jarrohlik aralashuvlar 8,0% dan 2,1% gacha va o'lim darajasini 17,1% dan 7,9% gacha kamaytirish.

Kalit so'zlar: qizilo'ngachdan qon ketishi, tasnifi, endoskopik gemostaz.

ДИФФЕРЕНЦИРОВАННЫЙ ПОДХОД К ВЫБОРУ МЕТОДА ЛЕЧЕНИЯ ПИЩЕВОДНЫХ КРОВОТЕЧЕНИЙ

Хакимов М.Ш., Ашуров Ш.Э., Кушиев Ж.Х., Кодирова Г.Р.
Ташкентская медицинская академия

Аннотация

Аналізу подвергнуты результаты обследования и лечения 401 пациентов с пищеводными кровотечениями на фоне ЦП. 187 больных составили контрольную группу, где предпринята традиционная лечебная тактика. В основную группу вошли 214 пациентов, которым выбор метода лечения зависел от локализации ВРВ и интенсивности кровотечения в зависимости от предложенной нами шкалы интенсивности геморрагии.

При первой степени отмечается активное венозное кровотечение. Из-за высокого портального давления струя бьется на противоположную стенку пищевода или кровь быстро закрывает камеру эндоскопа или вообще невозможно определить источник из-за интенсивности кровотечения. При второй степени отмечается просачивание крови или капельное кровотечение. При третьей степени ВРВ покрыта свежими тромбами или наблюдается симптом «спелой вишни». При четвертой степени кровотечения не отмечается, имеются тромбоцитарно-фибриновые пробки, выступающие в просвет пищевода из ВРВ (симптом «белого соска»).

Предложенный нами дифференцированный подход к выбору метода гемостаза при кровотечениях из ВРВ позволил повысить эффективность первичного гемостаза с 85,6% до 92,5%, снизить частоту рецидивов кровотечения с 14,4% до 7,5%, уменьшить показатель выполнения открытых хирургических вмешательств с 8,0% до 2,1% и сократить частоту летальности с 17,1% до 7,9%.

Ключевые слова: пищеводное кровотечение, классификация, эндоскопический гемостаз.

Introduction. Patients with esophageal bleeding due to the high frequency of unsatisfactory results require a differentiated and individual approach to the treatment of each patient. A predisposing factor in achieving a positive outcome is an adequate assessment of the severity of the patients initial condition, which is achieved through the use of disease classifications [1, 4].

At present, there are a number of classifications for assessing the degree of oesophageal varices (EVV). The classification proposed by A.G. Scherzinger (1986) is most commonly used in the post-Soviet space. According to this classification there is a distinction of Oesophageal dilatation by vein diameter (I degree - vein diameter 2-3 mm; II degree - vein diameter 3-5 mm; III degree - vein diameter >5 mm.), by localisation (isolated oesophageal IOP; gastric IOP - type I - gastroesophageal IOP with spread to the cardiac and subcardiac sections of the small curvature of the stomach; type II - gastroesophageal IOPs from the esophagocardial transition along the greater curvature towards the stomach fundus; type III - isolated gastric IOPs without oesophageal IOPs - varicose transformation of the fundal veins of the stomach; type IV - ectopic nodules of the body, antral part of the stomach) [3].

In European countries, the classification of varicose veins of the esophagus by N. Soehendra, K. Binmoeller (1997) has found widespread use. According to this classification, there are three degrees of enlargement in varicose veins (degree I - veins with a diameter of no more than 5 mm, practically not visualized; degree II – varicose veins from 5 to 10 mm, solitary polypoidal nature; degree III – veins with a diameter of more than 10 mm, representing an extensive conglomerate nodes) [4].

The American Association for the Study of Liver Diseases (AASLD) classification is used in the USA: Stage 1 - small veins, minimally elevated above the oesophageal mucosa; Stage 2 - medium-sized veins, tortuous, occupying less than one third of the oesophageal lumen; Stage 3 - large veins [5].

In Asian countries, the Baveno classification of esophageal varices is widely used, according to which small (minimally elevated veins above the surface of the oesophageal mucosa), medium (tortuous veins occupying less than one third of the oesophageal surface) and large (veins occupying more than one third of the oesophageal surface) oesophageal varices are distinguished [6].

The current classifications of the degrees of varicose veins of the esophagus are based only on the size of the veins or the nature of structural changes in them. However, none of the above classifications determines the degree of intensity of bleeding from the esophageal varices, which ultimately does not allow choosing adequate treatment tactics; the individual characteristics of the patient are not taken into account, which does not allow personalizing treatment depending on his needs; there is no systematization according to the degree of risk of complications and prognosis of the disease, which could help doctors make more informed decisions about further treatment and monitoring of patients with varicose veins of the esophagus; There is no system for assessing the extent of varicose veins; the classifications do not take into account the number and length of varicose veins in the esophagus, which limits the ability to determine the extent of damage to the esophagus. Because of these problems, the above classifications may not be sufficient to fully describe and evaluate esophageal varices.

According to generalized data, when predicting bleeding from the varicose vein (VV), one must be guided by the following criteria: the degree of expansion of the VV (the more pronounced the expansion, the higher the risk); location of the VV; the severity of the expansion of the esophagus; VV tension; the severity of vasculopathy for varicose veins of the esophagus and gastropathy for varicose veins of the stomach; portocaval gradient (>12 mmHg); the severity of the functional state of the liver (the higher the Child-Pugh class, the higher the risk); portal vein thrombosis in patients with liver cirrhosis (LC) [7].

Taking into account the current situation, **the purpose of the study** was to develop a classification for assessing the intensity of esophageal bleeding and create optimal treatment tactics.

Clinical material and research results. We analyzed the results of treatment of 401 patients with esophageal bleeding due to cirrhosis, who were hospitalized in the emergency surgery department of the multidisciplinary clinic of the Tashkent Medical Academy for the period from 2016 to 2023. 187 patients made up the control group, where traditional treatment tactics were undertaken. The main group included 214 patients, for whom the choice of treatment method depended on the localization of varicose veins and the intensity of bleeding, depending on the scale of hemorrhage intensity we proposed.

Upon admission of patients to the hospital, 149 patients underwent diagnostic endoscopy with subsequent determination of further treatment

tactics, and in 38 cases, taking into account the severity of the condition and the presence of signs of cirrhosis and PG, hemostatic measures began with a temporary stop of bleeding by tamponade of the bleeding veins with a Blackmore probe, gastric lavage with cold water to "clean waters" to monitor the adequacy of probe placement and achievement of hemostasis.

As a primary method of hemostasis, 64 patients underwent installation of a Blackmore probe. If there are no signs of bleeding within 24-48 hours, the pressure in the esophagus and in the gastric balloon the probe was reduced, followed by complete removal of air. Of these, in 54 cases, after the Blackmore probe was dissolved, continued bleeding was noted. In this regard, 5 patients underwent sclerotherapy, and in 49 cases ligation of the VV was performed. In the remaining patients, the Blackmore probe was removed. In 110 patients, in the absence of hepatic encephalopathy and stable hemodynamics, hemostasis was achieved by performing ligation. It should be noted that from 1 to 3 varicose nodes are ligated. In 9 patients, primary hemostasis was achieved through sclerotherapy. In 4 cases, endoscopic examination diagnosed profuse bleeding from the area of the transition of the esophagus to the stomach and the fundus of the stomach. Considering the impossibility of performing endoscopic hemostasis, in these cases, emergency surgical intervention was performed - Patzior's operation.

Primary haemostasis was achieved in 160 (85,6%) patients, recurrence of bleeding was noted in 27 (14,4%) cases, in 32 (17,1%) observations there was a lethal outcome.

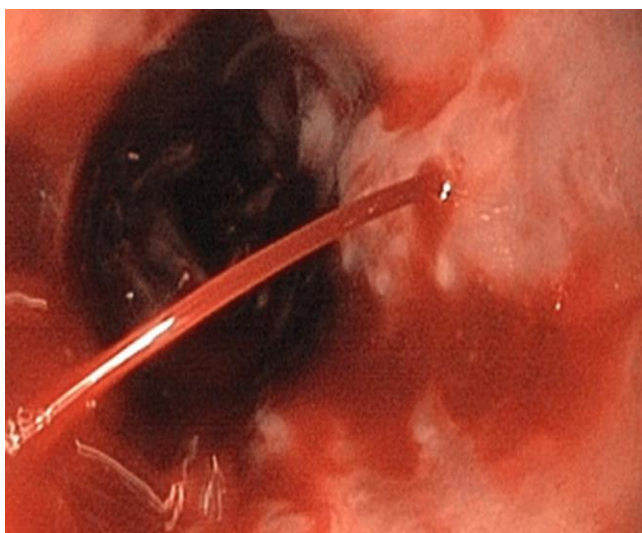
The analysis of clinical data of the control group showed that unsatisfactory results of surgical treatment of patients with oesophageal bleeding were associated with incorrect assessment of the source of bleeding and its intensity, which led to an incorrect choice of treatment method.

Taking into account the above, we proposed a classification of the degree of bleeding intensity from oesophageal and gastric IHVs. The treatment tactics depended on the localisation of the intraesophageal bleeding.

In the first degree, active venous bleeding is noted. Due to high portal pressure, the jet hits the opposite wall of the esophagus or the blood quickly closes the endoscope chamber or it is generally impossible to determine the source due to the intensity of the bleeding (picture 1).

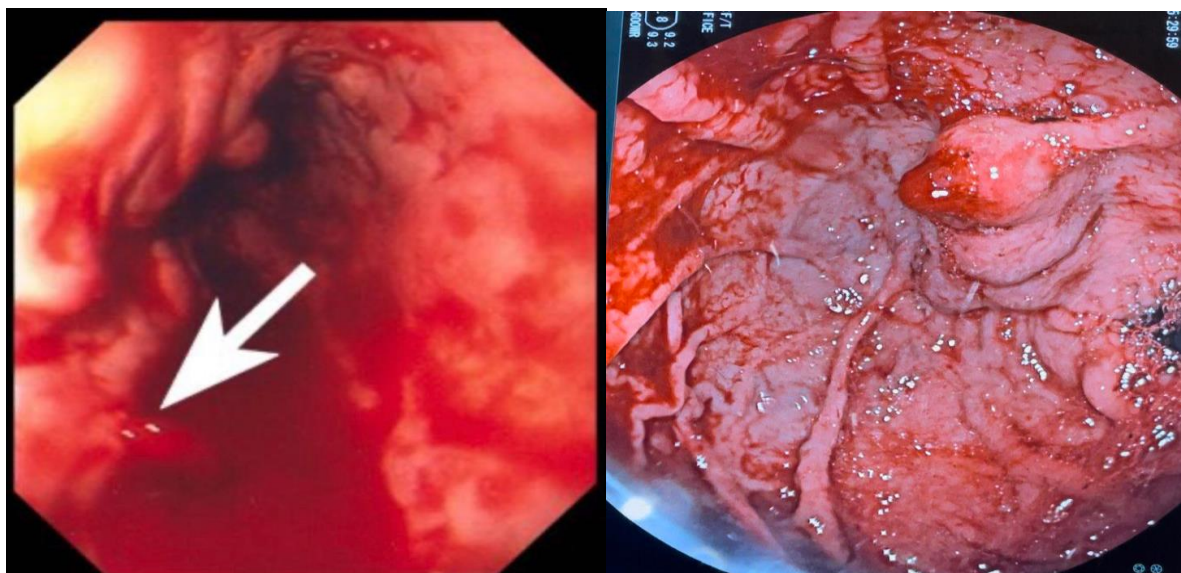
The treatment tactics for the first degree of IOP bleeding intensity is as follows: for GOV1, a Blackmore installation with subsequent ligation of the esophageal varices when the patient's condition is stabilized after 24-48 hours; with GOV2 it is also necessary to install Blackmore with subsequent

ligation of esophageal varices of the esophagus when the patient's condition is stabilized after 24-48 hours, if varicose veins spread to the fundus of the stomach - adhesive obliteration with cyanoacrylate or retrograde ligation ; for IGV 1, retrograde ligation or adhesive obliteration is advisable; for IGV 2, adhesive obliteration is rational. Ineffectiveness of endoscopic methods of haemostasis is an indication for open surgery of gastroesophageal manifold dissection.



Picture 1. Active venous bleeding (grade 1).

In the second degree, blood oozing or drip bleeding is noted (picture 2).



Picture 2. Blood leakage or drip bleeding (grade 2).

GOV1 include sclerotherapy or ligation of esophageal varices; with GOV2 - sclerotherapy and ligation of esophageal varices of the esophagus, with spread of varices to the fundus of the stomach - retrograde ligation; for IGV 1 - retrograde ligation; for IGV 2 - adhesive obliteration or ligation with nylon ligatures. When performing manipulation, blood clots often interfere

with the manipulation. In these cases, we have proposed a technique for performing endoscopic examination, which consists in lowering the foot end of the table and bringing the head end into a semi-vertical position, which helps to bring the clots into the lumen of the stomach, which allows the manipulation to be completed.

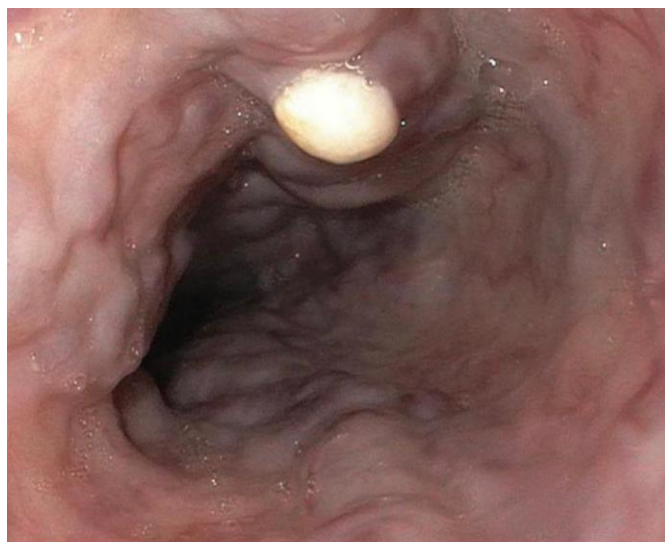
In the third degree, varicose veins are covered with fresh blood clots or a “ripe cherry” symptom is observed, there is no bleeding (this is observed in patients within 24 hours after bleeding) (picture 3).



Picture 3. “Ripe cherry” symptom (grade 3).

When performing endoscopic manipulation, the presence of a blood clot does not allow adequate assessment of the boundaries of the bleeding area of the varicose vein. To do this, it is necessary to rinse this area through an endoscope and, after rinsing the blood clots, carry out manipulation. In case of GOV1, ligation of the esophageal varices is necessary; with GOV2, ligation of esophageal varices of the esophagus is also carried out, and with the spread of varices to the fundus of the stomach - retrograde ligation; with IGV 1, retrograde ligation is carried out; for IGV 2, ligation is performed with nylon ligatures.

In the fourth degree of bleeding, no bleeding is observed; there are platelet -fibrin plugs protruding into the lumen of the esophagus from the varices of the esophagus (the “white nipple” symptom) (appears within 2-7 days after bleeding after the blood clot falls out from the source of the varices of bleeding) (picture 4).



Picture 4. Symptom of "white nipple" (4th degree).

In this degree, treatment measures are aimed at prevention of bleeding recurrence and do not require special preparation such as installation of Blackmore's probe, washing of the bleeding source area. The scope of endoscopic intervention is similar to the previous degree of bleeding: in GOV1 it is necessary to perform ligation of the oesophageal IHV; in GOV2 - ligation of the oesophageal IHV, in case of IHV spread to the stomach floor - retrograde ligation; in IGV1 - retrograde ligation; in IGV2 - ligation with nylon ligatures.

The clinical effectiveness of the proposed system for assessing the severity of the intensity of bleeding from varices and a differentiated approach to the choice of hemostasis method depending on the location of the source was carried out on 214 patients of the main group. Considering the fact that the choice of method of primary hemostasis is influenced by the localization of varicose veins and the severity of bleeding, in the main group, upon admission, all patients underwent endoscopy in the first hours of admission to determine treatment tactics. In 12 cases, due to the severity of the condition, a Blackmore probe was installed and diagnostic endoscopy was performed within the first 6 hours. The choice of hemostasis method depended on the intensity of bleeding and localization of varicose veins (Table 1).

Table 1.

Distribution of patients according to bleeding intensity and source location.

Indicators	GOV 1	GOV 2	IGV 1	IGV 2	Total
1st degree	32 (15,0%)	9 (4,2%)	2 (0,9%)	1 (0,5%)	44 (20,6%)
2nd degree	35 (16,4%)	7 (3,3%)	3 (1,4%)	0 (0%)	45 (21,0%)
3rd degree	83 (38,8%)	22 (10,3%)	3 (1,4%)	1 (0,5%)	109 (50,9%)
4th degree	13 (6,1%)	2 (0,9%)	1 (0,5%)	0 (0%)	16 (7,5%)
Total	163 (76,2%)	40 (18,7%)	9 (4,2%)	2 (0,5%)	214 (100%)

Depending on the severity and source of bleeding, the hemostasis method was chosen. In grade 1, 32 patients underwent ligation of the VV, 4 - retrograde ligation, 7 - glue obliteration and in 1 observation - Patzior's operation according to the method we proposed. In another 4 cases (in 3 cases after ligation, in 1 case after retrograde ligation), the Patzior operation was performed due to the ineffectiveness of endoscopic hemostasis. In grade 2, 34 patients underwent ligation of the VV, 6 - retrograde ligation and 5 - sclerotherapy. In grade 3, 100 cases had ligation of the esophageal varices, and in 8 cases, retrograde ligation was performed. ligation and in 1 case - ligation with nylon ligatures. At grade 4 bleeding intensity, 14 patients underwent ligation of the esophageal varices, 2 patients underwent retrograde ligation (Table 2).

The differentiated approach to the choice of the method of stopping the bleeding from IHV allowed to achieve primary haemostasis in 92,5% (223 patients) of observations, relapse was noted in 7,5% (18 patients) of cases, lethality was 7,9% (19 cases).

Table 2.

Characteristics of methods of primary hemostasis in the main group.

Indicators	GOV 1	GOV 2	IGV 1	IGV 2
1st degree	Ligation - 32	Retrograde ligation - 3; Adhesive obliteration - 5; Operation Patziora - 1	Retrograde ligation - 1; Adhesive obliteration - 1	Adhesive obliteration - 1
2nd degree	Sclerotherapy - 4; Ligation - 31	Sclerotherapy - 1; Ligation - 3; Retrograde ligation - 3	Retrograde ligation - 3	
3rd degree	Ligation - 83	Ligation - 17; Retrograde ligation - 5	Retrograde ligation - 3	Ligation with nylon ligatures - 1
4th degree	Ligation - 13	Ligation - 1; Retrograde ligation - 1	Retrograde ligation - 1	

The discussion of the results. Bleeding from the esophageal esophagus is the final link in the chain of complications of cirrhosis. Mortality during the first episode of gastrointestinal bleeding reaches 50%. Today, of all the available methods of diagnosis and treatment, endoscopic examinations

are a diagnostic method and the gold standard both in identifying varicose veins and in choosing treatment tactics [8, 9, 10].

At the present stage, an important point is the choice of treatment tactics depending on many factors that determine the severity of bleeding and the prognosis of the effectiveness of the therapy.

According to the classification of K.J. Paquet (1995), based on the presence of endoscopic signs of vasculopathy, determine the likelihood of bleeding. There are "red cherry" spots, hematocyst spots, and telangiectasia. "Red cherry" spots ("microvarixes", "varixes on varixes"; cherry red spots, CRS). During endoscopy, CRS are visualized as slightly protruding, often multiple red areas up to 2 mm, which are localized at the apexes of the VV. Hematocystic spots (HCS) are located in the area of the presence of a communicating vein, look like single red bubbles up to 4-5 mm and are a common site for the development of profuse bleeding. Telangiectasia (telangiectasia, TE) is detected as a network of small convoluted vessels located subepithelially [11].

In the studies of Martirosyan R.A. (2017), it was scientifically substantiated that the risk of bleeding is high in the case of an IHV of more than 5 mm. A prognostically unfavourable sign is the presence of bleeding stigmata. In the presence of grade 3 IHV with stigmata, the incidence of bleeding is 72.7%, while when signs of vasculopathy appear, this indicator increases to 80% [12].

In contrast to the above-mentioned studies, where special attention is paid to the prediction of bleeding, in our studies, depending on the intensity of bleeding, 4 degrees of severity were distinguished and the optimal scheme of therapeutic measures was proposed. The choice of hemostasis method was also influenced by the localisation of the bleeding source.

The proposed differentiated approach to the choice of the method of haemostasis in bleeding from the IHV allowed to increase the efficiency of primary haemostasis from $85.6 \pm 2.6\%$ to $92.5 \pm 1.7\%$ ($t=2.264$), reduce the rate of bleeding recurrence from $14.4 \pm 2.6\%$ to $7.5 \pm 1.7\%$ ($t=2.264$), reduce the rate of open surgical interventions from $8.0 \pm 2.0\%$ to $2.1 \pm 0.9\%$ ($t=2.835$) and reduce the mortality rate from $17.1 \pm 2.8\%$ to $7.9 \pm 1.7\%$ ($t=2.718$).

Thus, the proposed classification allows us to objectively assess the intensity of oesophageal bleeding, and the proposed therapeutic tactics contributes to the choice of a reliable method of hemostasis.

Conclusions

1. The assessment of the severity of oesophageal bleeding and topical diagnosis of the source of haemorrhage is an integral part of decision-making

on the choice of haemostasis method, which allows to determine the optimal therapeutic algorithm.

2. The differentiated approach to the choice of the method of haemostasis in bleeding from IHV allowed to reduce the frequency of bleeding recurrences in 1.9 times, to reduce the rate of open surgical interventions in 3.8 times and to reduce the mortality rate in 2.2 times.

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