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Minimally Invasive Interventions in Portal Hypertension Complication with Esophageal and Gastric Varicose Veins

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ABSTRACT

Purpose: when bleeding from esophageal and gastric varices is observed in patients complicated by portal hypertension and to prevent further bleeding, using old methods (use of Sengestaken-Blackmore probe, permanent ice pack in epigastric area and lower third of thoracic area, large operative wounds) choosing the modern best minimally invasive intervention without leaving or hurting.

Material and methods. Staged endoscopic practice in 2020-2022 in all 32 patients who re-applied to the multidisciplinary clinic of the 1st faculty and hospital surgery department of the Tashkent Medical Academy in inpatient conditions of portal hypertension (PH) with bleeding complications from esophageal and gastric varices (EGV) done.

Results and their discussion. Endoscopic sclerotherapy (ES) is preferred when there is a high risk of bleeding from varicose veins detected during surveillance endoscopy or within 6-24 hours after initial conservative therapy and balloon tamponade. If bleeding has stopped on its own during the examination, ES is considered an indication to prevent rebleeding.

Conclusion: We do not want to see this method as a cure, but we consider it as a method that can help the patient in an urgent situation, and after this method, in order to prevent bleeding, prolong the patient's life and reduce other complications, it is necessary to carry out endovascular operation, and then liver transplantation.

Introduction: Today, the incidence of liver cirrhosis and its complication, portal hypertension, is increasing day by day. According to worldwide statistics, liver cirrhosis is the 14th leading cause of death among all diseases. One of the severe complications of portal hypertension caused by cirrhosis of the liver is bleeding from varicose veins of the esophagus and stomach. Therefore, in this article, we will focus on the importance and role of minimally invasive interventions in the prevention and treatment of bleeding from esophageal and gastric varices.

Purpose: when bleeding from esophageal and gastric varices is observed in patients complicated by portal hypertension and to prevent further bleeding, using old methods (use of Sengestaken-Blackmore probe, permanent ice pack in epigastric area and lower third of thoracic area, large operative wounds) choosing the modern best minimally invasive intervention without leaving or hurting.

Material and methods. One of the most common and fatal complications of portal hypertension (PH) with cirrhosis of the liver (LC) is bleeding from esophageal and gastric varices. In the researches of various scientists, it is written that bleeding from EGV leads to death in 40-70% of cases.

To date, the development of medicine and the creation of new methods are the reason for preventing these complications and reducing the death rate even if it is small. One of these methods is endoscopic sclerosing and endoscopic ligation, and the use of endovascular methods in addition to these methods significantly reduces rebleeding from EGV. The complex use of endoscopic and endovascular methods, which are considered less invasive, can be used before or after major operations (liver transplantation, shunting), if active bleeding is observed, then a major operation can be performed after achieving complete hemostasis. Transplantation or shunting can be considered the treatment of PH associated with LC, but not all patients can afford these operations, especially patients with liver failure (LF), there are also patients who have financial difficulties to undergo such operations, and some patients after hemostasis do not have time to perform the above operations again. they come because of bleeding. In such patients, high efficiency can be achieved with the complex use of minimally invasive methods, and these methods can be used before or after the operation of transplantation and shunting to prolong survival.

When varicose veins of the esophagus and stomach are observed, we can use endoscopic and endovascular treatment methods in the following cases:

Patients with a very high risk of surgery (decompensated LC, jaundice, ascites), and when conservative therapy is not effective;

LC patients over 60 years of age and those with severe joint diseases;

Patients who underwent repeated operations due to portal hypertension bleeding from EGV;

In patients with a high risk of bleeding from EGV;

Contraindications to the combined use of endoscopic and endovascular methods:

Contraindications to endoscopic sclerotherapy are the following cases: hepatic coma, profuse bleeding in patients in a state of agony, serious disorders of the blood coagulation system. In these cases, in addition to ES, we can use the following minimally invasive methods: embolization of bleeding vessels , endoscopic ligation of bleeding vessels.

Thus, it can be said that there are no contraindications to the use of endoscopic and endovascular methods when bleeding is observed from EGV (without ES, of course).

Endoscopic and endovascular procedures were performed in the inpatient setting at the 1st faculty and hospital surgery department of the TMA multidisciplinary clinic. In patients with re-

active bleeding from EGV, endoscopic bleeding was first achieved, endovascular thromboembolization and embolization of splenic arteries were performed within 12-24 hours.

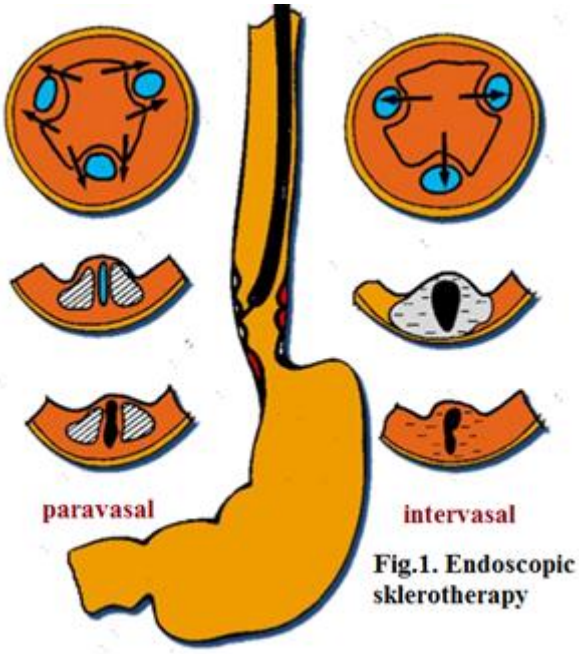

Fig.1. Endoscopic sklerotherapy

Endoscopic sclerotherapy was performed in the endoscopy room using Olympus fiber optic endoscopic instruments (GIF-10), endoscopic injector. There are mainly 2 methods of endoscopic sclerotherapy, these are intravasal and paravasal methods (Fig.1). Intravasally, 6-10 ml of 1% sclerosing drug is injected into the EGV, thereby achieving thrombosis of the varicose vein. In the paravasal method, the sclerosing drug is injected into the submucosal layer around varicose veins, where the angle of the needle should not exceed 45 degrees. In paravasal sclerosis, the result is achieved due to edema under the mucosa, followed by paravasal fibrosis.

In our experience, when using intravasal and paravasal methods, we often prefer to use 1% polidocanol, 1% ethoxysclerol, 1% thrombovar, and 1% Fibrovein diluted in 40% ethanol and this has given good results.

In addition, micropen method of intravasal sclerosing method was also used. To make a micropen, we need 2 syringes and a connector, where 2 syringes are connected to each other using a connector. 2.0 ml of 3% sclerosing drug solution and 8.0 ml of air are collected in one syringe. By distilling this mixture from one syringe to another through a connector, it is brought to a foamy state. Foam preparation is complete when there are no visible liquid components in the syringe. Using an endoscope, 5.0 ml of 3% sclerosing drug solution is injected into the wall of the varicose vein for 1.5-2 minutes.

In cases where sclerotherapy fails to stop bleeding (when varicose veins of the stomach are enlarged), cyanoacrylate adhesive compositions are used. Two fabric adhesives are used: N-butyl-2-cyanoacrylate (histoacrylate) and isobutyl-2-cyanoacrylate (bucrylate). When cyanoacrylate enters the bloodstream, it quickly polymerizes (within 20 seconds), obliterating the vessel, thereby achieving hemostasis. A few weeks after the injection, the sticky substance migrates from the stomach lining.

During our experience, all 32 patients in the main group underwent endoscopic surgery, and no complications were observed in our observations. However, the following complications can be observed from the literature: perforation of the esophagus and stomach in up to 2% of cases, increased body temperature and pain in the chest area in up to 1% of cases, narrowing of the permeability of the esophageal mucosa in 3% to 10% of cases, gastroesophageal reflux in 10-

20% of cases. to be

During 2020-2022, staged endoscopic surgery was performed on all 32 patients who re-referred to PH with bleeding complications from EGV.

Depending on the activity of venous bleeding in patients with bleeding from EGV, ES was performed in 32 patients at the first attempt. In all 8 patients with active bleeding from EGV, ES procedure ended with bleeding cessation on the first attempt, and in the remaining 23 cases, bleeding cessation was achieved after repeated ES. Unfortunately, in only 1 case, a traditional open procedure was performed due to the fact that the patient had portal hypertension in the decompensated stage of LC Child-Pugh category "S" and the patient had LF in the decompensated stage. However, 3 patients had rebleeding 6 hours after re-ES, so re-endoscopic ligation and ES were performed together. All patients who successfully completed the operation were prepared for endovascular operation.

Distribution of patients according to the stage of portal hypertension and localization of portal-hepatic circulation block

Stages of portal hypertension	Main group
Compensation stage	2 (6.3 %) _
Subcompensation _ stage	13 (40.6 %) _
Stage of decompensation _	17 (53.1 %)
Total	32 (100%)

N. Soehendra, K. Binmoeller's classification endoscopic examination of esophageal and gastric varicose veins

EGV level	Main group	
II	5	15.6 % _ _ _
III	18	5 6 , 3 %
GOV -1, GOV -2	9	28.1 % _ _ _

Severity of liver cell failure in the main study group according to the Child-Pugh classification

Class A	V class	Class C
3 (10%)	21 (65%)	8 (25%)

After achieving endoscopic hemostasis, all patients were prepared for endovascular procedure. First of all, all patients underwent duplex scanning, MSCT angiography, and then the angioarchitectonics of liver-splenic blood flow was studied. Second, all patients underwent endovascular coagulation and embolization.

Results and their discussion. Based on our analysis, we can understand that: before the introduction and use of the ES method to achieve the cessation of bleeding, all conservative and surgical methods of treating patients with LC complicated by bleeding from EGV of the PH were very difficult for doctors, that is, inefficiency, discomfort for the patient and the most Importantly, major surgery was associated with trauma.

The advantages of the ES method are the possibility of selective obliteration of the veins of EGV, i.e., varicose veins, where the risk of their rupture is maximum, in the submucosal layer and the preservation of other (periesophageal) collaterals and portocaval anastomoses, the simplicity and minimal invasiveness of this method, as well as the absence of a negative effect

on liver function. lack of ES is preferably used when there is a high risk of bleeding from varicose veins detected during endoscopy or within 6-24 hours after initial conservative therapy and balloon tamponade. If bleeding has stopped on its own during the examination, ES is considered an indication to prevent rebleeding.

Conclusion: We suggest that ES and its alternative EL (endoscopic ligation) methods are less invasive, and patients with LC suffering from PH bleeding due to EGV can be treated for a long time (use of Sengestaken-Blackmore probe, permanent ice pack on epigastric region and lower third of thoracic region, major operative injuries) is spared from suffering by its effectiveness. We do not want to see this method as a cure, but we consider it a method that can help the patient in an urgent situation, and after this method , in order to prevent bleeding, prolong the patient's life and reduce other complications, it is necessary to carry out an endovascular operation, and then perform a liver transplant.

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