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CLINICAL EVALUATION OF THE RESULTS OF ENDOHEMOSTASIS IN EROSIVE HEMORRHAGIC GASTRITIS

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Abstract. The article discusses the results of endoscopic hemostasis in erosive hemorrhagic gastritis. Thanks to the proposed method of endoscopic treatment of multiple erosions of the gastric mucosa complicated by bleeding (F- Ib and F- IIa -b), it was possible to reduce the frequency of recurrent bleeding from 11.8% to 5.8%. The effectiveness of repeated endohemostasis made it possible to level the need for surgical treatment for recurrent bleeding against the background of erosive gastritis from 2.9% to 0. Against the background of the proposed method, a reduction in the duration of hemostatic therapy and the time spent by the probe in the stomach was noted.

Keywords: erosive gastritis, laser, mucosa, endoscopic hemostasis.

Introduction

Back in 1986 by Brunetaud JM et al. wrote that endoscopic photocoagulation with an argon laser has been extensively studied in animals [2]. Clinical pilot studies and randomized controlled trials have shown that argon laser endoscopic hemostasis is safe and effective. Even then, specific recommendations for successful endoscopic hemostasis were defined. Limitations of the use of argon laser for emergency hemostasis are strong blood absorption, its high cost and lack of portability, the impossibility of tamponade or tangential treatment, the possibility of vaporization.

Shortly before this, in 1983, Joffe SN . performed endoscopic photocoagulation with the Nd:YAG laser for bleeding from the upper gastrointestinal tract [5]. To evaluate the efficacy of neodymium:yttrium aluminum garnet laser photocoagulation for the endoscopic control of major upper gastrointestinal bleeding, 19 patients who met all the criteria for this study underwent laser therapy. Initial hemostasis was achieved in 17 patients (89%). Two patients who continued to bleed were operated on but died. Rebleeding occurred in five patients, laser photocoagulation was successful in two, and surgery was successful in two more. The author believed that Nd:YAG lasers offered a safe and effective method to stop bleeding and reduce morbidity and the need for emergency surgery.

Ramadani A , et al (2018) believe that endoscopy is the "gold standard" for the diagnosis and treatment of angiodysplasia of the gastrointestinal tract [6]. The study showed that argon plasma coagulation is a more effective treatment option with fewer complications and adverse events compared with injection therapy in patients with erosive and ulcerative bleeding of the gastrointestinal tract.

A number of other authors also consider endoscopic laser coagulation to be the first-line therapy and cite the results of their clinical studies in support of this argument [1, 3, 4].

The aim of this work was to study the effectiveness of the proposed methods of endoscopic hemostasis in erosive hemorrhagic gastritis.

Materials and methods. This section analyzes the results of 68 patients in the comparison group and 52 patients in the main group. The results in this group were analyzed with distribution according to the following criteria: hemorrhagic gastritis among patients

without drug risk factors and with symptomatic (pharmaceutical) factors.

In the comparison group, bleeding recurrence after endoscopic hemostasis in the group with erosive hemorrhagic gastritis without drug risk factors was noted in 2 (9.5%) cases, in turn, in the main group, bleeding recurrence was noted only in 1 (5.3%) case (Table 1). An even greater difference was noted in the frequency of rebleeding after endoscopic hemostasis in the subgroup with symptomatic risk factors. Thus, in the comparison group , bleeding recurrence after endoscopic hemostasis was noted in 6 (12.8%) cases, in the main group, bleeding recurrence was noted only in 2 (6.1%) cases.

Table 1
Frequency of rebleeding after endoscopic hemostasis

Severity of bleeding	Comparison group		Main group	
	Abs .	%	Abs .	%
Without drug risk factors				
F- Ib	1	4.8%	1	5.3%
F- IIa	1	4.8%	0	0.0%
F- IIb	0	0.0%	0	0.0%
Total	2	9.5%	1	5.3%
With symptomatic risk factors				
F- Ib	4	8.5%	1	3.0%
F- IIa	2	4.3%	1	3.0%
F- IIb	0	0.0%	0	0.0%
Total	6	12.8%	2	6.1%
All patients with erosive hemorrhagic gastritis				
F- Ib	5	7.4%	2	3.8%
F- IIa	3	4.4%	1	1.9%
F- IIb	0	0.0%	0	0.0%
Total	8	11.8%	3	5.8%

In total, in the comparison group, recurrence of bleeding after endoscopic hemostasis in the group with erosive hemorrhagic gastritis was noted in 8 (11.8%) cases, and in 3 (5.8%) cases in the main group. Moreover, recurrences of bleeding, regardless of the group, were noted more often with mild degrees of F- Ib and F-I Ia . With F-I I b degree of bleeding, no relapses were noted.

When distributing patients according to the quality of primary endoscopic hemostasis and the source of recurrent bleeding in erosive gastritis, it turned out that in the main group there was no rebleeding from the coagulation site, while in the comparison group it was noted in 3 (4.4%) cases (Table 2). Recurrence of bleeding from another localization in the comparison group was also noted more often - in 5 (7.4%) cases, in the main group - 3 (5.8%) cases. In general, in the main group, 94.2% of patients had no recurrence of bleeding, in the comparison group - 88.2% of patients.

Table 2

Distribution of patients according to the quality of primary endoscopic hemostasis and the source of recurrent bleeding in erosive gastritis

Source of rebleeding	Comparison group		Main group	
	Abs .	%	Abs .	%
From the site of coagulation	3	4.4%	0	0.0%
From another location	5	7.4%	3	5.8%
No relapse	60	88.2%	49	94.2%
Total	68	100.0%	52	100.0%

A comparative analysis of the effectiveness of primary and secondary endoscopic hemostasis in patients with erosive gastritis without drug risk factors did not reveal a significant difference (Table 3).

Table 3

Comparative share of efficiency of primary and secondary endoscopic hemostasis

Severity of bleeding	Comparison group		Main group	
	Abs .	%	Abs .	%
Without drug risk factors				
Repeated endohemostasis	2	9.5%	1	5.3%
Surgical treatment	0	0.0%	0	0.0%
Patients with persistent primary endohemostasis	19	90.5%	18	94.7%
Total	21	100.0%	19	100.0%
With symptomatic risk factors				
Repeated endohemostasis	4	8.5%	2	6.1%
Surgical treatment	2	4.3%	0	0.0%
Patients with persistent primary endohemostasis	41	87.2%	31	93.9%
Total	47	100.0%	33	100.0%
All patients with erosive hemorrhagic gastritis				
Repeated endohemostasis	6	8.8%	3	5.8%
Surgical treatment	2	2.9%	0	0.0%
Patients with persistent primary endohemostasis	60	88.2%	49	94.2%
Total	68	100.0%	52	100.0%

In the presence of symptomatic risk factors in the comparison group, in 4 (8.5%) cases, repeated endohemostasis was required . Unfortunately, in 2 cases (2.9%) in the comparison group, due to the ineffectiveness of endoscopic hemostasis and recurrent bleeding, surgical treatment was performed - gastrotomy with stitching of bleeding gastric erosions. In the main group, repeated endohemostasis was used only in 2 (6.1%) cases.

According to the above effectiveness of endohemostasis, the duration of hemostatic therapy was longer in the comparison group (Table 4). For example, in the comparison group with symptomatic risk factors, 13 (27.7%) patients needed more than 3 days for complete hemostasis, while the same indicator in the main group was 4 (12.1%). Without drug risk factors in the main group in all 19 (100%) hemostasis was achieved up to 3 days, in contrast to the comparison group, where in 2 (9.5%) cases it took more than 3 days. In total, with erosive gastritis, hemostasis up to 2 days was achieved in the main group in 35 (67.3%) patients, in the comparison group - only in 31 (45.6%) cases (χ^2 =6.915; df =2; p =0.032) .

Table 4
Duration of hemostatic therapy in comparison groups (days)

Day	Comparison group		Main group	
	Abs .	%	Abs .	%
Without drug risk factors				
2	12	57.1%	15	78.9%
3	7	33.3%	4	21.1%
More than 3	2	9.5%	0	0.0%
Total	21	100.0%	19	100.0%
With symptomatic risk factors				
2	19	40.4%	20	60.6%
3	15	31.9%	9	27.3%
More than 3	13	27.7%	4	12.1%
Total	47	100.0%	33	100.0%
All patients with erosive hemorrhagic gastritis				
2	31	45.6%	35	67.3%
3	22	32.4%	13	25.0%
More than 3	15	22.1%	4	7.7%
Total	68	100.0%	52	100.0%
χ^2	6.915; df =2; p=0.032			

The average duration of hemostatic therapy was shorter in the main group (Fig. 1), a significant difference was noted in the group with symptomatic risk factors of 2.5 ± 0.7 days (t = 2.21; p < 0.05) and in the analysis of all patients 2.4±0.6 days (t = 2.87; p <0.05)

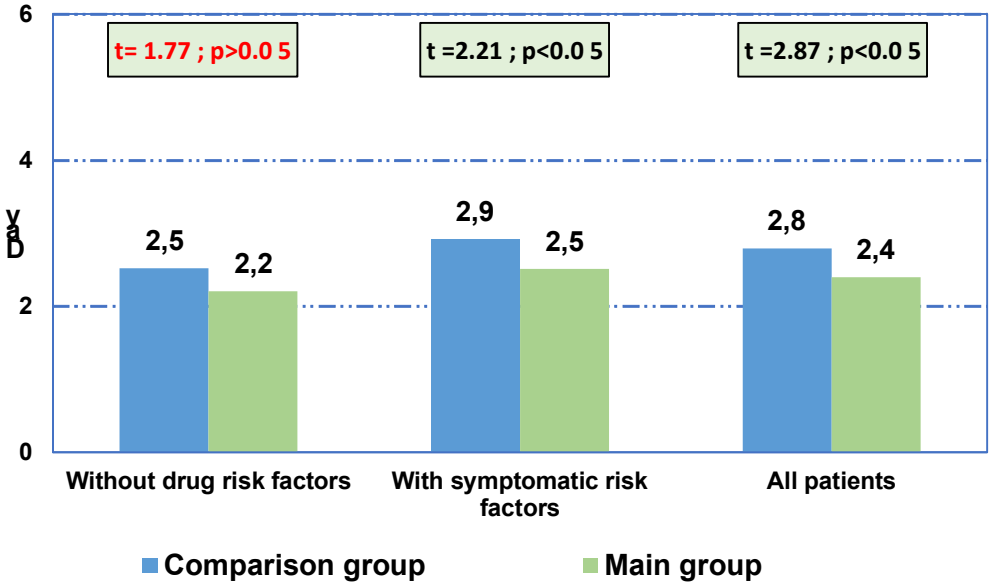

Fig. 1. Average duration of hemostatic therapy in comparison groups (days)

Table 5 shows the duration of the control probe in the stomach in the comparison groups. Without drug risk factors in both groups, the gastric tube was installed for a period of not more than 2 days. In the presence of symptomatic risk factors in the comparison group, in 5 (10.6%) cases , the probe remained in the stomach for up to 3 days, in the main group - only in 1 (3.0%) patient. Thus, in the main group, in 2/3 patients, the probe was in the stomach for no more than 1 day, in the comparison group, the same indicator was noted in 41.2% of patients ($\chi^2 = 7.478$; df =2; p=0.024) .

Table 5

The duration of the control probe in the stomach in the comparison groups (days)

Day	Comparison group		Main group	
	Abs .	%	Abs .	%
Without drug risk factors				
1	10	47.6%	16	84.2%
2	eleven	52.4%	3	15.8%
3	0	0.0%	0	0.0%
Total	21	100.0%	19	100.0%
With symptomatic risk factors				
1	18	38.3%	18	54.5%
2	24	51.1%	14	42.4%
3	5	10.6%	1	3.0%
Total	47	100.0%	33	100.0%
All patients with erosive hemorrhagic gastritis				
1	28	41.2%	34	65.4%
2	35	51.5%	17	32.7%
3	5	7.4%	1	1.9%
Total	68	100.0%	52	100.0%
χ^2	7.478; df =2; p=0.024			

The average indicators of the probe being in the stomach (Fig. 2) decreased from 1.7±0.6 days in the comparison group to 1.4±0.5 days in the main group (t = 2.85; p < 0.05).

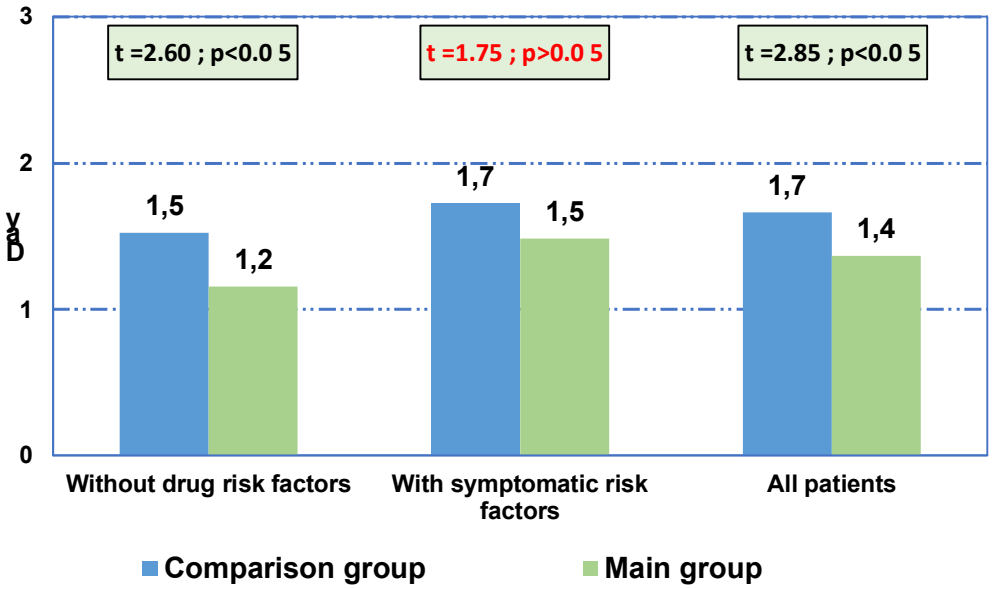

Fig. 2. The average duration of the control probe in the stomach in the comparison groups (days)

The timing of achieving hemostasis and the duration of the control probe in the stomach directly affect the average bed-days in the comparison groups, which, of course, was lower in the main group (Fig. 3). Without drug risk factors in the comparison group, the average number of bed-days was 4.3±0.6 days, in the main group - 3.7±0.7 days (t = 2.71; p < 0.05) . With symptomatic risk factors 5.4±1.2 days versus 4.3±1.1 days (t = 4.13; p < 0.05) .

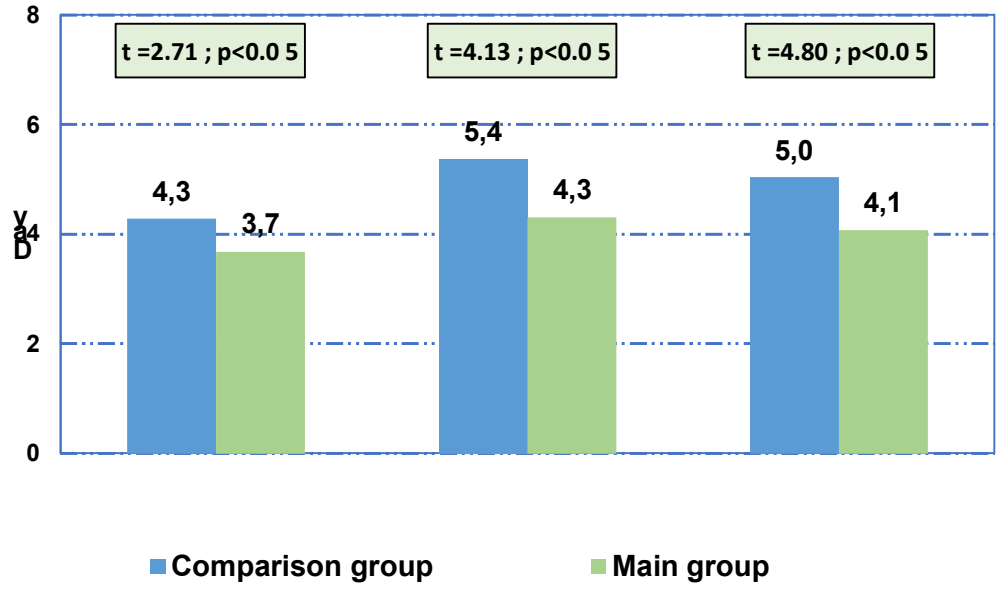

Fig. 3. Average bed-days in comparison groups

Thus, the proposed method for the endoscopic treatment of bleeding patients (Forrest Ib) or with the presence of a thrombus (Forrest IIa -b) multiple gastric mucosa allowed to reduce the frequency of recurrent bleeding in the group with Without drug risk factors from 9.5% (in 2 out of 21 patients in the comparison group) to 5.3% (in 1 out of 19 patients in the main group) , in the group with symptomatic ulcers from 12.8% (in 6 of 47 patients in the comparison group) to 6.1% (in 2 of 33 patients in the main group) and in general in the entire sample from 11.8% (in 8 out of 68 patients in the comparison group) to 5.8% (in 3 out of 52 patients). At the same time, the effectiveness of repeated endohemostasis made it possible to level the need for surgical treatment for recurrent bleeding against the background of erosive gastritis (2 (2.9%) patients in the comparison group were operated on. Against the background of the proposed method, a reduction in the duration of hemostatic therapy was noted from 2.8 ± 0.9 days up to 2.4 ± 0.6 days ($t = 2.87$; $p < 0.05$) and the time the tube was in the stomach from 1.7 ± 0.6 days to 1.4 ± 0.5 days ($t = 2.85$, $p < 0.05$) The efficiency of endoscopic hemostasis made it possible to generally reduce the number of hospital bed days, in particular, in cases of bleeding without a drug risk factor, this indicator decreased from 4.3±0.6 days to 3.7 ±0.7 days ($t = 2.71$; $p < 0.05$), in the presence of symptomatic factors from 5.4±1.2 days to 4.3±1.1 days ($t = 4.13$; $p < 0.05$) and for the entire sample from 5.0±1.2 days to 4.1±1.0 days ($t = 4.80$; $p < 0.05$).

Conclusions. The proposed method of endoscopic treatment of multiple erosions of the gastric mucosa complicated by bleeding (F- IB and F- IIa -b) allowed to reduce the frequency of recurrent bleeding in the group with Without drug risk factors from 9.5% to 5.3%, in the group with symptomatic ulcers from 12.8% to 6.1% and in general for the entire sample from 11.8% to 5.8%. The effectiveness of repeated endohemostasis made it possible to level the need for surgical treatment for recurrent bleeding against the background of erosive gastritis from 2.9% to 0.

Against the background of the proposed method, there was a reduction in the duration of hemostatic therapy from 2.8±0.9 to 2.4±0.6 days ($t = 2.87$; $p < 0.05$) and the time spent by the probe in the stomach from 1.7 ±0.6 to 1.4±0.5 days ($t = 2.85$; $p < 0.05$). The achieved efficiency of endoscopic hemostasis made it possible to generally reduce the number of hospital bed days, in particular, in case of bleeding with no drug risk factor, this indicator decreased from 4.3±0.6 to 3.7±0.7 days ($t = 2.71$; $p < 0.05$), in the presence of symptomatic factors from 5.4±1.2 to 4.3±1.1 days ($t = 4.13$; $p < 0.05$) and for the entire sample from 5.0 ±1.2 to 4.1±1.0 days ($t = 4.80$; $p < 0.05$).

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