

## COMPARATIVE EVALUATION OF DIFFERENT METHODS OF TREATMENT OF NOSEBLEEDS

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✓ *Resume*

*The authors evaluated the clinical efficacy of homeostatic drugs in septoplasty. The material of the study was patients with ENT clinic of the Bukhara Medical Multidisciplinary Center. The study involved 50 patients with curvature of the nasal septum.*

*According to the results of the study, the use of new domestic hemostatic agents in preparation for septoplasty makes it possible to increase the effectiveness of treatment by achieving a faster and more stable hemostasis, as well as to reduce the number of complications and the duration of treatment.*

*Key words: comparative assessment of various methods of treatment of nosebleeds, hemostasis.*

## СРАВНИТЕЛЬНАЯ ОЦЕНКА РАЗЛИЧНЫХ МЕТОДОВ ЛЕЧЕНИЯ НОСОВЫХ КРОВОТЕЧЕНИЯ

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✓ *Резюме*

*Авторами оценено клиническое эффективность применения гомеостатических препаратов при септопластике. Материалом исследования были больные ЛОР клиники Бухарского медицинского многопрофильного центра. Обследовано 50 пациентов с искривлением носовой перегородки.*

*По результатам исследования что использование новых отечественных кровоостанавливающих средств при подготовке к септопластике позволяет повысить эффективность лечения за счет достижения более быстрого и стабильного гемостаза, а также сократить количество осложнений и продолжительность лечения.*

*Ключевые слова: сравнительная оценка различных методов лечения носовых кровотечений, гемо статика.*

## BURUN QONASHINI TURLI USULLARINI QIYOSIY BAHOLASH

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Buxoro davlat tibbiyot instituti

✓ *Rezyume*

*Mualliflar septoplastikada gomeostatik dorilarning klinik samaradorligini baholadilar. Tadqiqot materiallari Buxoro tibbiyot ko'p tarmoqli markazining KBB klinikasi bemorlari edi. Tadqiqotda burun septumining egriligi bo'lgan 50 nafar bemor ishtirok etdi.*

*Tadqiqot natijalariga ko'ra septoplastikaga tayyorgarlik jarayonida yangi mahalliy gemostatik vositalardan foydalanish tezroq va barqaror gemostazga erishish orqali davolash samaradorligini oshirishga, shuningdek asoratlar sonini va davomiyligini kamaytirishga imkon beradi. davolash.*

*Kalit so'zlar: burundan qon ketish, gemostazni davolashning turli usullarini qiyosiy baholash.*

**Relevance**

The problem of bleeding in emergency and elective otorhinolaryngology has not lost its relevance for many years. Patients with nosebleeds admitted to ORL clinic make up, on average, 20,5% of all hospitalized patients per year [1,4,13]. The means of local hemostasis available in the arsenal of otorhinolaryngologists, such as diathermy, mechanical compression of

blood vessels, and cryotherapy, are far from always effective, as evidenced by numerous publications [3,12]. Often, bleeding that is not amenable to local action forces ENT surgeons to resort to radical measures - surgical ligation or X-ray endovascular occlusion of the great vessels, which is always associated with the risk of serious complications [4,8,11]. Transfusion of blood

components is becoming an increasingly dangerous procedure due to the constant increase in the number of life-threatening infectious diseases with a parenteral mechanism of infection, such as HIV, viral hepatitis and others [9,10]. Nosebleed (NB) is one of the most common reasons for patients seeking emergency otorhinolaryngological care, as well as the most common type of bleeding in medical practice. A patient with NB needs to be stopped immediately. The algorithm for treating patients with NB involves tamponade of the nasal cavity along with hemostatic therapy. Most often, the front gauze tamponade according to Mikulich is used, or tamponade with the so-called "elastic" tampons made of foam rubber in glove rubber. If the anterior tamponade is ineffective, the Belloc's posterior tamponade is performed. Tamponade of the nose is difficult for patients, especially the back, as it is accompanied by the impossibility of nasal breathing, headache and pain in the face, often with an increase in body temperature. Patient hospitalization periods can be up to several weeks; there is a risk of bleeding after removing the tampons. At present, close attention is paid to the development of methods for sparing tamponade of the nasal cavity, but this problem has not been fully resolved.

**Purpose of the study.** To evaluate the clinical efficacy of the use of hemostatic drugs in septoplasty.

**Material and methods of research:**

The study was carried out in the ENT department of the clinic of the Bukhara Medical

Multidisciplinary Center. We examined 50 patients with curvature of the nasal septum.

- examination of ENT organs;
- complaints and anamnesis of patients;
- rhinoscopy;
- endoscopy;
- Complete blood count, coagulogram and assessment of blood clotting time.

**Results and their discussion**

For the prevention of nosebleeds during and after septoplasty, as indicated above, the patients were divided into 2 groups. The first group consisted of 25 patients who were prescribed Inebirin, the second group consisted of 25 patients who were prescribed Ditsynon.

The distribution of patients according to the degree of bleeding intensity and source localization is shown in Table 3.5.

Thus, the studied groups of patients were comparable in terms of the degree of intensity and localization of the source of nosebleeds. The severity of blood loss was assessed on admission according to V.I. Struchkova, E.V. Lutsevich (1971), taking into account such parameters as blood pressure, pulse, hemoglobin level, general condition of the patient.

- Slight bleeding (deficiency of circulating blood volume 5%)
- Moderate bleeding (deficit of circulating blood volume 15%)
- Severe bleeding (deficit of circulating blood volume 30%)

**Table 1**

**Distribution of patients in the study groups with nosebleeds according to the degree of bleeding and localization of the source.**

Patient groups	Bleeding intensity		Localization of the source of bleeding	
	Easy	Moderate	Anterior sections	Back sections
Group using Inebirin (n=25)	7	15	18	4
Group using Ditsynon (n=25)	8	14	17	5

Patients with bleed of 30% of the circulating blood volume and more were not observed, in most patients there was bleed of mild and moderate severity (5-15% of the circulating blood volume).

In the studied groups of patients, the time to stop bleeding was determined, characterized by the absence of blood flow along the posterior wall

of the pharynx during pharyngoscopy. We also analyzed the number of relapses of bleeding after removal of the tampon or hemostatic. The effect of local hemostatic agents on the parameters of hemostasis in the general blood flow was studied. The nature of changes in the nasal mucosa after manipulations, as well as complications associated with manipulation, was determined, the degree of

pain was assessed by points of a visual analogue scale.

Comparative analysis of the studied hemostatic agents and gauze tamponade showed that the average time to complete stopping bleeding, characterized by the absence of blood flow along

the posterior pharyngeal wall during pharyngoscopy, after treatment with dicinone, was  $9.8 \pm 1.7$  minutes. In the treatment with Inebrin, hemostasis was achieved on average in  $4.4 \pm 0.6$  minutes ( $p < 0.05$ ) (Table 2).

Table 2

**Influence of domestic local hemostatic agents on stopping bleeding in patients with nosebleeds (min).**

Investigated indicators	Control group (n= 25)	Main group (n= 25)
Time to stop bleeding, min	$9,8 \pm 1,7$	$4,4 \pm 0,6$ *

\* - differences are statistically significant ( $p < 0,05$ )

Thus, the final hemostasis in the group of patients with the use of hemostatic agents was achieved significantly faster than in the control group.

Analysis of the number of relapses of bleeding after manipulation in the studied groups of patients revealed their significant decrease in the group with the use of hemostatic agents. In the group with the use of the drug Inebrin in all cases ( $n = 25$ , 100%) after the anterior tamponade, no additional manipulations were required, i.e. full hemostasis was achieved. After the removal of the tampon on the next day, there were no recurrences of bleeding, the patients were discharged in satisfactory condition under outpatient supervision.

In the control group, where the drug dicinone was prescribed, a typical anterior tamponade of the nasal cavity was also performed; primary hemostasis was unstable in 2 patients (8%). At the same time, in 2 patients, relapse of bleeding occurred after removal of the tampon on the 3rd day, which required repeated tamponade and additional hemostatic therapy. Recurrence of bleeding, apparently, was associated with insufficient fixation of the anterior tampon to the source of bleeding in the nasal cavity.

The characteristics of the number of relapses of nosebleeds in the studied groups of patients are shown in Table 3.

Table 3

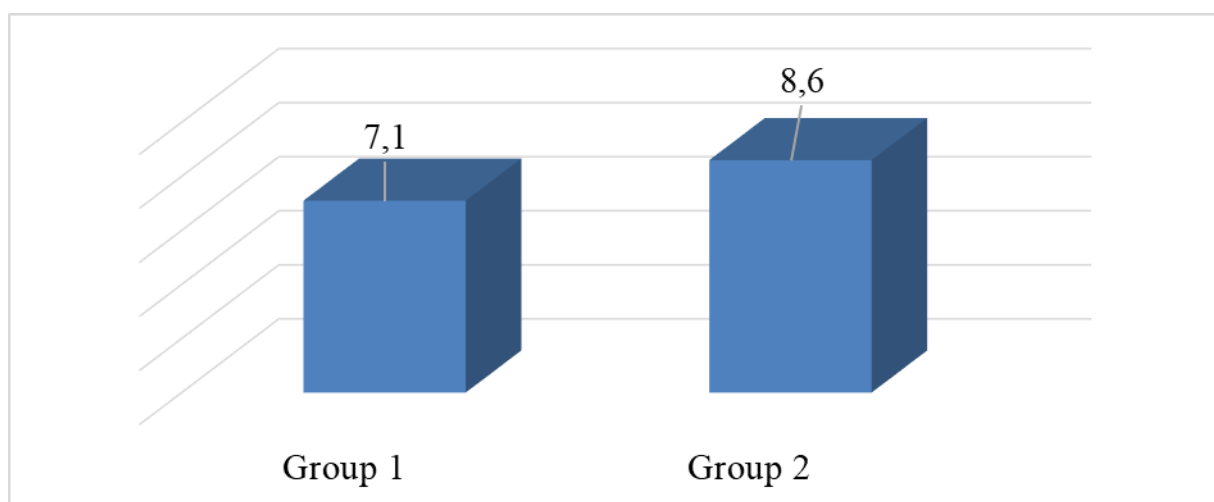
**Analysis of the number of relapses of bleeding in the early stages after manipulation.**

Patient groups	Recurrence of bleeding after manipulation	
	N	%
Control group (n=25)	2	8
Main group (n=25)	0	0*

\* - differences are statistically significant ( $p < 0,05$ )

It was noted that in groups of patients with the use of hemostatic agents Inebrin and dicinone, it was possible to avoid recurrent bleeding in the early stages after manipulation, repeated tamponade of the nasal cavity, as well as blood transfusions.

The average time spent on the anterior tamponade of the nasal cavity differed from the average time spent on the application of hemostatic agents. The average duration of manipulations aimed at stopping bleeding in the studied groups of patients is shown in Figure 1.



**Picture 1. Average time spent on the procedure for stopping nosebleeds (min).**

In the group with the use of Inebtrin, the average duration of manipulation in total was  $7.1 \pm 0.9$  minutes, with the use of dicinone -  $8.6 \pm 0.8$  minutes. Thus, the use of hemostatic agents made it possible to halve the duration of the procedure for stopping bleeding.

We also studied the parameters of the blood coagulation system of the studied groups of

patients after the use of hemostatic agents in order to identify their possible influence on the parameters of systemic hemostasis. For comparison with baseline data, these patients underwent a coagulogram before using hemostatic agents.

**Table 4.**  
**The influence of hemostatic agents on some indicators of hemostasis in patients with nosebleeds.**

Examinations	Main group		Control group	
	Before treatment	After treatment	Before treatment	After treatment
Coagulogram				
Thrombin time	40,1	18,9	54,9	50,2
prothrombin index	91	93,5	94,6	94,3
Platelets	225,3	229,7	215,0	226,9
Blood recalcification time	92,7	95,3	89,1	89,6
Activated partial thromboplastin time	32,7	23,0	32,3	30,6
Fibrinogen	3,1	3,2	3,5	3,5
Tolerance of blood to heparin	9,8	14,4	11,5	11,3
Fibrinolytic activity	105,4	105,5	103,8	103,8
General blood analysis				
Erythrocytes	3,9	3,9	4,0	4,1
Hemoglobin	118,0	117,7	119,9	120,8
ESR	7,2	7,27	7,2	7,3
Leukocytes	6,67	6,59	6,0	6,6

\*- the difference is not reliable ( $p > 0,05$ )

In a visual assessment of the state of the nasal mucosa a week after septoplasty, in a number of cases, the development of edema of the nasal mucosa, as well as, to varying degrees, trophic disorders were noted. To assess the degree of

impairment of mucociliary clearance of the nasal mucosa 7 days after septoplasty, a saccharin test was used in the studied groups of patients. The results of these studies are shown in Table 4.

**Table 4.**

**The nature of changes in the nasal mucosa associated with stopping nosebleeds in the studied groups of patients 7 days after manipulation**

Investigated indicators (average values)		Main group (n=25)	Control group (n=25)
Mucosal edema	Expressed	2	3
	Absent	15	12
	Moderate	5	7
Fibrinous plaque	Expressed	1	1
	Absent	18	17
	Moderate	3	4
Trophic changes	Expressed	0	0
	Absent	20	21
	Moderate	2	1
Indicators of saccharin test (norm 6-8 min)		8,6±0,9 min	10,9±1,7 min
Pain syndrome during manipulation according to VASH scores		3,22±0,27	3,89±0,41

The table shows that in the groups of patients with the use of local hemostatic agents by the 7th day there were no pronounced trophic disorders and edema of the nasal mucosa, while in 5 patients of the control group, the development of persistent edema of the mucous membrane was noted.

The results of the saccharin test did not reveal significant violations of the mucociliary clearance of the nasal mucosa in the groups of patients using

Inebrin and Dicinone. There was also a significantly lower severity of pain in terms of the parameters of the visual analogue scale of pain in groups of patients with the use of hemostatic agents.

The average duration of inpatient treatment in patients in the group with the use of Inebrin is  $4 \pm 0.9$  days, in the group with the use of dicinone -  $4 \pm 0.8$  days (Table 5).

**Table 5.**

**Length of hospital stay in compared groups**

Groups	Number of patients	Total bed - days	Bed - days Sick
Group in which used Inerbrin	25	100	4±0,9
Group in which used dicinone plate	25	100	4±0,8

The timing of the postoperative bed-day was influenced by such factors as recurrent bleeding during the first day after surgery, the volume of blood loss, the number and nature of complications..

To analyze the quality of life of patients on the 7th day after septoplasty, a patient condition assessment questionnaire was used, specially developed for rhinosurgery - Rhinosinusitis DisabilityIndex(BenningerMS, SeniorBA, 1997). This questionnaire includes 30 questions and

covers such parameters as nasal breathing, the ability to distinguish between odors, headache, sleep patterns, mental status, etc. each of the above symptoms was assessed by patients depending on its severity using a point system from 1 to 7, and also by frequency of occurrence. When assessing a symptom of 5 points or more, this symptom was regarded as impairing the quality of life. In this regard, the most significant symptoms for patients were identified. The results of the questionnaire are shown in table 6.

**Table No.6**

**Assessment of the quality of life of patients in the study groups after various methods of stopping bleeding.**

Symptoms	Group in which used Inerbrin (n= 25)		Group in which used dicinone plate (n= 25)	
	n	%	N	%
Feeling physically inferior	4	18,1	4	18,1
Limitations in daily life	5	22,7	6	27,2
Inability to do your job	4	18,1	3	13,6
Impossibility of normal rest	5	22,7	6	27,7
Discomfort due to nasal congestion	7*	31,8	8*	36,3
Discomfort from nasal discharge	6*	27,2	9*	40,9
Feeling tired	5*	22,7	6*	27,2
Bad sleeping	9*	40,9	8*	36,3
Difficulty communicating with people	1*	4,54	1*	4,54
Irritability	1*	4,54	1*	4,54
Changes in taste due to decreased sense of smell	5*	22,7	7*	31,8
Total complaints in this group	52*		59*	

\*- differences are statistically significant ( $p < 0,05$ )

According to the results of the survey, it was revealed that most often patients are worried about nasal congestion and discharge, a decrease in smell, poor sleep and a feeling of fatigue. In total, in the groups with the use of hemostatic agents, there was a significantly lower number of complaints (52 and 59, respectively, in the groups with the use of Inerbrin and Dicinone).

Thus, in the groups of patients with the use of hemostatic agents, an earlier onset of complete hemostasis was noted, as well as the absence of recurrent bleeding after manipulation.

Comparative hemostatic evaluation of the use of Inerbrin and dicinone in preparation for septoplasty showed that no recurrence of bleeding was observed in the main group, and in the group with the use of dicinone, the percentage of recurrence of bleeding was 4.54%.

The average duration of treatment in the group with the use of Inerbrin was  $4 \pm 0.9$  bed-days, with the use of dicinone -  $4 \pm 0.8$  bed-days. When using Inerbrin, there was no edema of the mucous membrane already on the 6th day, a decrease in smell and changes in taste were present only in 22.7% of patients. When using dicinone, the edema of the mucous membrane was moderate, a decrease in smell and a change in taste was in 31.8% of patients. Analysis of comparative data shows a slight advantage of using Inerbrin over dicinone in preparation for septoplasty.

Summarizing the data obtained, we can conclude that the use of new domestic hemostatic agents in preparation for septoplasty makes it possible to increase the effectiveness of treatment by achieving faster and more stable hemostasis, as well as to reduce the number of complications and the length of hospitalization.

# LIST OF REFERENCES:

1. Angotoeva I.B. Methods for stopping nosebleeds / Angotoeva I.B., Kurlova A.V., Gornostalev N.Ya. // Russian rhinology 2012.-N 3.-C.24-30.
2. Ashurov Z.M. Recurrent epistaxis after galvanic acoustics of the lower turbinates /Ashurov Z.M., Synebogov S.V., Demidov I.N., Kadyrova E.V. // Bulletin of otorhinolaryngology 2013.-N 1.-C.51-52.
3. Barkagan Z.S. Introduction to clinical hemostasiology // Moscow: Nyudiamed, - 2015.- 45 p.
4. Barkagan Z.S. Introduction to clinical hemostasiology // Moscow: Nyudiamed, - 2015.- 45 p.
5. Belozerskaya G.G., Makarov V.A., Malykhina L.S. et al. New hemostatic agents Geotex and Thrombokol // Collection of Abstracts of the 2nd Congress of the Russian Scientific Society of Pharmacologists, - Moscow, - 2013, - P.65.
6. Bobrov V.M. Life-threatening bleeding in emergency otorhinolaryngology // Bulletin of the otorhinolaryngologist -2014. - No. 2. - 35-37.
7. Bobrov V.M. Emergency care for nosebleeds / Bobrov V.M. // News of otorhinolaryngology and logopathology 2012.-N 2.-P.67-70.
8. Boyko N.V. On the pathogenesis of recurrent nosebleeds // Russian rhinology. - 2016. - No. 3. - p. 39 - 43.
9. Boyko NV Pathogenesis of nosebleeds in patients with arterial hypertension / Boyko NV, Shatokhin Yu.V. // Bulletin of otorhinolaryngology 2015.-N 5.-P.41-45.
10. Boyko N.V. The use of electrocoagulation to stop nosebleeds // J. News of otorhinolaryngology and logopathology - SPb-2018, no. 4 - p. 75-79.
11. Boyko N.V. Surgical treatment of recurrent nosebleeds /Boyko N.V. // Russian rhinology 2010.-N 2.-C.29-33.
12. Yu G, Fu Y, Dong C, Duan H, Li H.Is the occurrence of pediatric epistaxis related to climatic variables? Int J Pediatr Otorhinolaryngol. 2018 Oct;113:182-187.
13. Zhou AH, Chung SY, Sylvester MJ, Zaki M, Svider PS, Hsueh WD, Baredes S, Eloy JA.To Pack or Not to Pack: Inpatient Management of Epistaxis in the Elderly. Am J Rhinol Allergy. 2018 Oct 1:194-198.

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