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EFFECTIVENESS OF COMPLEX TREATMENT OF RHINOSINUSITIS IN PATIENTS WITH CHRONIC MYELOLEUCOSIS

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ABSTRACT

The article provides information on methods of treatment of chronic rhinosinusitis in patients with chronic myelogenous leukemia and evaluation of its effectiveness. However, data on the use of subjective analog scale and endoscopic visual scale in assessing the severity of the disease and the effectiveness of treatment are presented. The object of the study was the clinic of the Republican Specialized Scientific and Practical Medical Center of Hematology (RSSPMCH), and 68 patients being treated there. When using complex treatment, the phenomenon of rhinosinusitis is observed in a significantly smaller number of patients - 1.2 times less often than in the comparison group. The duration of remission in the main group was 36 days longer than in the comparison group ($p < 0.05$). The relapse rate decreased 2.4 times. The results obtained at the end of the course of treatment show that the treatment according to the recommended scheme helped to reduce the manifestation of symptoms of the inflammatory process and to significantly reduce the frequency of their occurrence. The results showed that the nasal cavity cleared of crusts faster and the amount of nasal discharge decreased.

Key words: chronic myeloleucosis, chronic rhinosinusitis, treatment complex, subjective analogue scale, endoscopic visual scale.

INTRODUCTION

Relevance of the topic. According to the World Health Organization, "... purulent-inflammatory diseases of the upper respiratory tract account for 70-80% of pathologies of the ENT organs. Over the past 10 years, the incidence of sinusitis has more than doubled, and the share of patients hospitalized in ENT hospitals is growing by 1.5-2% annually.

Disorders of the immune system lead to a decrease in the body's defenses, which increases the likelihood of various diseases, including rhinosinusitis, the development of complications often leads to the recurrence and chronic transition of acute processes that are very slow. In hemoblastosis, including chronic myelogenous leukemia (CML), pathological processes lead to disruption of the repair and recovery processes of the mucous membrane of the upper respiratory tract and reduce their resistance to infections [1, 13].

According to many foreign researchers, "... despite the improvement of methods of diagnosis of chronic inflammatory diseases of the nose and nasal cavity and the use of modern treatments, there is an increase in the number of chronic and recurrent forms of rhinosinusitis, abnormal course of the disease ...." [4, 5, 7, 8, 9, 16]. Studies suggest that the treatment of rhinosinusitis in patients with CML needs to be improved, given that the development of rhinosinusitis has a negative impact on the clinical course of chronic myelogenous leukemia [13].

The aim of the study was to evaluate the effectiveness of the complex treatment complex recommended for the treatment of rhinosinusitis in patients with chronic myelogenous leukemia.

The object of the study

Table 1

Distribution of examined patients by age-sex groups, (n, %)

age	Male		Female		Overall
	N	%	**N**	%	
Under 18 years old	2	5.7	1	3.0	3
18-39 years old	11	31.4	14	42.4	25

Complaints were collected in all patients and the history of disease development was studied in detail, as well as the general condition of the patients was examined. In collecting the anamnesis, the time of onset of the disease was determined, the time of recurrence of relapses, their association with infectious diseases, diseases of the respiratory system, as well as the presence of severe allergic anamnesis were taken into account.

The diagnosis of "chronic rhinosinusitis" is made when there are 2 main symptoms: nasal congestion and nasal discharge, as well as additional symptoms: headache localized near the nasal sinuses, decreased sense of smell. In this case, the duration of these symptoms should not exceed 12 weeks.

The diagnosis is confirmed by endoscopic examination (presence of mucosal tumor and / or mucopurulent discharge in the middle / upper nasal passages) and / or computed tomography (with changes in the mucosa of the ostiomeatal complex and / or adjacent nasal cavity).

Patients with CRS are unable to clearly indicate the duration of the disease and do not associate its onset with any specific event. As an exception, patients with a history of disease with odontogenic and upper jaw fungal sinusitis receive dental treatment.

To determine the overall severity of the disease, the patient is asked to use a subjective analog scale (SAS) to show how disturbed the RS symptoms are. Figure 2 shows data on the severity of rhinosinusitis using SAS.

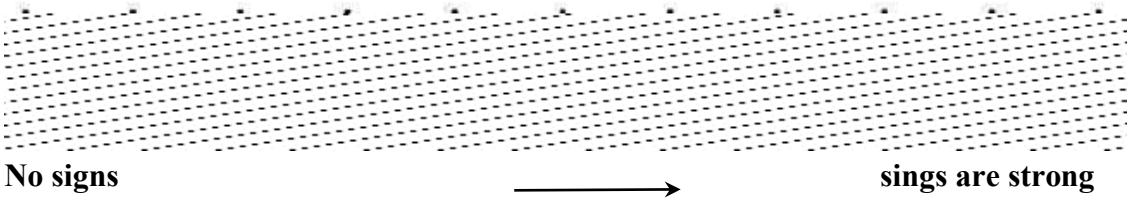

Figure 2. Determination of the severity of rhinosinusitis using SAS.

Procedure for using a subjective analog scale to subjectively assess the degree of nasal breathing difficulty: to do this, ask the patient "How difficult is it to breathe through the nose at the same time?" - is asked to answer the question and its level of difficulty is assessed by placing an appropriate mark on the 10 cm scale (Fig. 2), where 0 means “free breathing” and 10 means “not breathing at all through the nose”. A score of 3 or less corresponds to a mild degree, with a score of 3.1 to 7 - moderate and above 7.1 - indicating severe difficulty in nasal breathing.

Using the same scale, the severity of the main symptoms of CRS (nasal congestion, rhinorrhea, pain and decreased sense of smell) was assessed.

Endoscopic examination of the ENT organs focused on anterior, middle and posterior (if necessary) rhinoscopy, in which all parts of the nasal cavity were carefully examined, as well as oropharyngoscopy, otoscopy, indirect laryngoscopy, endoscopic examination of the nasal cavity and larynx.

The main method of objective diagnosis of CRS is anterior rhinoscopy and endoscopy, in which pathological secretions are detected in the area of the exit holes associated with inflammation of the paranasal cavity on the background of diffuse persistent hyperemia and edema of the nasal mucosa.

The method of radiography is of great importance in the diagnosis of acute purulent sinusitis. X-ray examinations were performed in all patients, for which images were taken in the lower jaw, nasal forehead, and lateral directions of the nose. Contrast radiography was used to confirm the diagnosis in adults. Iodlipol solution was used as a contrast agent.

A computed tomography of the head was performed to determine the extent of the inflammatory process. Special attention was paid to changes in the area of the eye orbit, and if necessary, consult an ophthalmologist, neurologist, therapist. Computed tomography (CT) of the nasal cavity is recommended in all patients with CRS. CT not only determines the prevalence and nature of pathological changes, but also reveals the peculiarities of the anatomical structure of the nasal cavity and nasal cavity, leading to recurrence and development of CRS.

On CT, an ostiomeatal complex structure that cannot be seen on a normal radiograph can be examined. In this case, CT plays a special role in the planned surgical practice of chronic rhinosinusitis. CT not only detects the prevalence of the process in the anterior sinus, but also allows to detect deformities of the nasal barrier, anatomical anomalies that are not visible on anterior rhinoscopy.

For endoscopic examinations, we used rigid endoscopes from Karl Storz (Germany) with a diameter of 4.0 cm and lateral optics MO i 70^{o}. The results of the endoscopic examination were recorded on a Sony Digital Camera - F 828.

Endoscopic examinations of the nasal cavity were performed using the Messerklinger W method before and after anemia in the nasal mucosa while the patient was sitting. In a known sequence, all parts of the nasal cavity were removed and examined starting from the nasal valves. Particular attention is paid to anomalies of the middle nasal passage and nasopharynx. The middle nasal cavity was also examined. The examination was performed from the posterior end with the reverse movement of the endoscope. In this case, it is possible to observe a

paradoxical curvature, which can lead to a violation of air exchange in the anterior sinus.

With the help of a complete endoscopic examination it is possible to clearly identify the causes of acute recurrent disease of the nasal cavity and nasal cavity and the factors that exacerbate inflammatory processes in the nasal cavity. Accordingly, the choice of treatment methods for the disease is also facilitated.

The results of the endoscopic examination were evaluated using an endoscopic visual scale (EVS). The condition of the nasal mucosa and shells, the nature of nasal discharge, the color of the nasal mucosa, and the condition of the nasal barrier were evaluated by scores (see Table 2).

Statistical processing of data was carried out using a practical statistical analysis program MS Excel for Windows XP. It involves calculating the arithmetic mean of the figure and the standard deviation. Assessment of the reliability of the difference in performance was performed using the Student's parametric criterion and the Mann-Whitney non-parametric criterion. Differences were considered reliable when $P < 0.05$.

Table 2

Evaluation of the severity of symptoms on the basis of EVS on the basis of the results of endoscopic examination, score

Condition of the mucous membrane of the nasal cavity and turbinates	
no signs of swelling and hypertrophy	0
signs of atrophy	1
signs of hypertrophy	2
concha bullosa	3
The nature of the discharge from the nose	
no discharge from the nose	0
nasal discharge is clear, liquid	1
mucous-purulent	2
purulent	3
The color of the mucous membrane of the nasal cavity	
pale pink	0
a little hyperemia	1
obvious hyperemia	2
Condition of septum	
Plain	0
slightly sloping	1
thorn and comb	2
S-shaped curved	3

The results obtained and their discussion. In the course of conventional treatment of CML, the microflora of the nasal cavity is activated due to a decrease in the protective properties of the organism and is a trigger in the development of sinusitis. This, in our opinion, indicates the need for complex treatment of patients with CML with the introduction of drugs that stimulate the immune system and have general strengthening properties. To assess the importance of the proposed approaches in the treatment of CR in patients with CML, we conducted a comparative evaluation of treatment efficacy in two groups of patients. The first group is the main group - patients treated with traditional treatment of CML (Glivek) + recommended drugs (Sinulor, Olifrin), and the second group is a group of patients receiving only the traditional course of treatment of CML and CRS. The classic treatment of CML was based on the recommendations of clinical protocols, but individual tolerance and efficacy of therapy varied in all patients.

Criteria for the effectiveness of treatment of chronic rhinosinusitis are: reduction of the main symptoms of the disease (runny nose, nasal congestion), recovery of nasal breathing and odor perception, improvement of the patient's quality of life and recovery of working capacity, positive dynamics observed in objective examination. It is important to keep in mind that the extent to which CRS symptoms affect patients 'social and personal life aspects depends on the specificity of their psyche.

Based on the analysis of the questionnaires completed by patients, the frequency and severity of CRS symptoms during treatment were assessed (Table 3).

Before starting the course of treatment, the comparison noted that 6.2% of the patients in the group were "breathing freely through the nose". At 7 days of treatment, 13.9% of patients in the main group and 18.8% of patients in the comparison group reported "restoration of free breathing through the nose". 33.3% of patients in the main group, 28.1% of patients in the comparison group complained of nasal inability to breathe at all, and 52.8 and 53.1% of patients complained of periodic difficulty in breathing.

At 14 days of treatment, 19.4% of patients in the main group and 18.8% of patients in the comparison group reported "breathing freely through the nose". A significant decrease was observed in both groups due to no nasal breathing at all (55.5% to 25% in the main group, 37.5% to 21.9% in the comparison group).

On 7 days of treatment, rhinorrhea was observed in 88.9% of patients in the main group and in 93.8% of patients in the comparison group. At 14 days of treatment, these rates were 66.7% and 71.9%, respectively. At 7 days of treatment, 38.9% of patients in the main group and 37.5% of patients in the comparison group

reported that the nasal discharge was purulent in nature. On day 14 of the course of treatment, these rates were 25% in both groups.

Table 3

Distribution of CRS symptoms during treatment according to the frequency and severity of detection, (based on assessment on SAS) (main group n = 36, comparison group n = 32)

Symptoms	Main group			Comparison group		
	1st day	7th day	14th day	1 st day	7 th day	14 th day
Nasal congestion						
Light (0-3 балл)	5(13.9)	9(25.0)	14(38.9)	3(9.4)	6(18.7)	10(31.2)
Middle (3,1—7 балл)	11(30.6)	10(27.8)	6(16.7)	15(46.9)	11(34.4)	9(28.1)
Heavy (7,1-10 балл)	20(55.5)	12(33.3)	9(25.0)	12(37.5)	9(28.1)	7(21.9)
No symptoms	0	5(13.9)	7(19.4)	2(6.2)	6(18.8)	6(18.8)
P value				0.717	0.953	0,449
Rhinorrhea						
0 (no)	0	4(11.1)	12(33.3)	0	2(6.2)	9(28.1)
1 (mucous)	5(13.9)	8(22.2)	9(25.0)	9(28.1)	12(37.5)	7(21.9)
2 (mucous-purulent)	12(33.3)	10(27.8)	6(16.7)	8(25.0)	6(18.8)	8(25.0)
3 (purulent)	19(52.8)	14(38.9)	9(25.0)	15(46.9)	12(37.5)	8(25.0)
P value				0,362	0.033	0.001
Pain						
Light (0-3 балл)	4(11.1)	8(22.2)	10(27.7)	8(25.0)	9(28.1)	10(31.3)
Middle (3,1—7 балл)	15(41.7)	10(27.8)	6(16.7)	9(28.1)	8(25)	8(25.0)
Heavy (7,1-10 балл)	16(44.4)	10(27.8)	6(16.7)	12(37.5)	8(25)	5(15.6)
No symptoms	1(2.8)	8(22.2)	14(38.9)	3(9.4)	7(21.9)	9(28.1)
P value				0.734	0,985	0.903
Decreased sense of smell						
Light (0-3 балл)	6(16.7)	10(27.8)	13(36.1)	10(31.3)	10(31.3)	12(37.5)
Middle (3,1—7 балл)	12(33.3)	8(22.2)	6(16.7)	8(25.0)	9(28.1)	7(21.9)
Heavy (7,1-10 балл)	15(41.7)	12(33.3)	9(25.0)	13(40.6)	10(31.3)	8(25.0)
No symptoms	3(8.3)	6(16.7)	8(22.2)	1(3.1)	3(9.3)	5(15.6)
P value				0,274	0.305	0.308

Headache was observed in 97.2% of the main group and in 90.6% of the comparison group before starting the course of treatment. At 7 days of treatment, 77.8% of patients in the main group and 78.1% of patients in the comparison group reported pain of varying degrees, while at 14 days of treatment, these figures were 61.1% and 71.9%, respectively. The number of patients without headache was significantly increased in both groups compared to the first day at the end of the course of treatment (from 2.8% to 38.9% in the main group, from 9.4% to 28.1% in the comparison group), but the difference was significant in the main group.

Decreased sense of smell was observed in 83.3% of patients in the main group on day 7 of treatment, and on day 14 - in 77.8%. In the comparison group, these figures were 90.7% and 84.4%, respectively.

Statistical analysis of the frequency of endoscopic symptoms showed that all symptoms of CRS were present in the compared group of patients and that the frequency of encounters decreased during treatment (Table 4).

At 7 days of treatment, the number of patients with tumors of the nasal mucosa decreased by 1.7 times (from 47.2% to 27.8%) in the main group, and by 1.4 times (from 43.8% to 31.2%) in the comparison group. decreased.

Table 4

Distribution of endoscopic symptoms during treatment according to the frequency and severity of detection,% (based on EVS assessment), (main group n = 36, comparison group n = 32)

Symptoms	Main group			Comparison group		
	1st day	7th day	14th day	1st day	7th day	14th day
Condition of the mucous membrane of the nasal cavity and turbinates						
0-no signs of swelling and hypertrophy	2 (5.6)	9(25.0)	15 (41,7)	3(9.3)	7 (21.9)	13(40.6)
1-signs of atrophy	16(44,4)	16(44,4)	16(44,4)	14(43.8)	14(43.8)	14(43.8)
2-signs of hypertrophy	17(47,2)	10(27.8)	4(11.1)	14(43.8)	10 (31.2)	4 (12.5)
3-concha bullosa	1 (2,8)	1 (2,8)	1 (2,8)	1 (3.1)	1 (3.1)	1 (3.1)
P value				0,719	0,087	0,000216
The nature of the discharge from the nose						
0-no discharge from the nose	0	4(11.1)	12(33.3)	0	2(6.2)	9(28.1)
1-nasal discharge is clear, liquid	5(13.9)	8(22.2)	9(25.0)	9(28.1)	12(37.5)	7(21.9)
2-mucous-purulent	12(33.3)	10(27.8)	6(16.7)	8(25.0)	6(18.8)	8(25.0)
3-purulent	19(52.8)	14(38.9)	9(25.0)	15(46.9)	12(37.5)	8(25.0)
P value				0,362	0,033	0,001

The presence of a crust						
0-there is none	22(61.1)	30 (83.3)	32 (88.9)	22(68.8)	26 (81.3)	27 (84,4)
1-there is a crust	14(38.9)	6(16.7)	4 (11.1)	10(31.2)	6(18.7)	5 (15.6)
P value				0,514	0,071	0,034
The color of the mucous membrane of the nasal cavity						
0-pale pink	13(36,1)	19(52.8)	29 (63.9)	10(31.2)	16(50.0)	19(59.4)
1-a little hyperemia	13(36,1)	10(27.8)	8(22.2)	14(43.8)	10(31.2)	8(25.0)
2-obvious hyperemia	10(27.8)	7(19.4)	5(13.9)	8(25.0)	6(18.8)	5 (15.6)
P value				0,896	0,231	0,060

The number of patients with purulent discharge from the nose decreased by 13.9% in the main group and by 9.4% in the comparison group. The number of patients with nasopharyngeal discharge in the main group was 9% higher than in the comparison group. In addition to the positive dynamics observed at 7 days of treatment, the number of patients with nasal congestion in the comparison group was 2% higher than in the main group. It was found that the number of patients with obvious hyperemia of the nasal mucosa decreased by 8.4% in the main group and by 6.2% in the comparison group.

On the 14th day of treatment, the number of patients without signs of swelling and hypertrophy in the nasal mucosa increased 7.4-fold in the main group and 4.3-fold in the comparison group. Symptoms of atrophy were observed in 44.4% of patients in the main group and in 43.8% of patients in the comparison group. Despite the complete course of treatment, tumors in the nasal mucosa were detected in 11.1% of patients in the main group and in 12.5% of patients in the comparison group. Although the number of patients with purulent and purulent discharge from the nose decreased significantly compared to the first examination in both groups, the number of patients with mucopurulent and purulent discharge from the nose in the comparison group was 1.2 times higher than in the main group (50% of the comparison group. at -41.7% of the group). The number of patients with purulent discharge from the nose was found to decrease reliably from 52.8% to 25% in the main group and from 46.9% to 25% in the comparison group. The number of patients with nasopharyngeal discharge in the comparison group was 8.3% higher than in the main group. Despite the complete course of treatment, the presence of nasal congestion in 5 patients of the comparison group, 4 patients in the main group, and obvious hyperemia of the nasal mucosa in 5 patients of both groups indicate immunosuppression in patients with CML.

At the end of the treatment course, the presence of rhinosinusitis symptoms, remission duration, and recurrence frequency were analyzed (Table 5). The data presented in Table 5 show that during complex treatment, symptoms of

rhinosinusitis were recorded in the main group of patients 1.2 times less than in the comparison group.

Table 5

The results of the evaluation of the effectiveness of treatment of patients in the study groups

Indicators	Main group n=36		Comparison group n=32	
	абс.	%	абс.	%
Presence of RS symptoms	9	25	11	34,4
Duration of remission, days	120±3	-	84±4	-
Recurrence frequency	7	19,4	17	53,1
Life expectancy: up to 1 year	36	100	32	100

It was found that the duration of remission in the main group increased by 36 days ($p < 0.05$) compared to the comparison group, and the frequency of relapses decreased by 2.4 times. In both groups, the number of patients who survived up to one year was 100%. In our study, we tried to compare the treatment efficacy with the classical regimen treatment (CML conventional treatment + Sinulor, Olifrin) according to the recommended regimen. The results obtained at the end of the course of treatment show that the treatment according to the scheme we recommend is the manifestation of symptoms of the inflammatory process and a significant decrease in the frequency of encounters. The results showed that the nasal cavity cleared faster from the lobes and the amount of discharge from the nose decreased. The positive dynamics of the overall indicators of EVS was significant in the main group.

Thus, the data obtained show the high effectiveness of complex treatment of CML with the use of a number of drugs that have a general strengthening effect, in addition to Glivek, aimed at increasing the body's resistance. Complex treatment makes it possible to predict the longevity of patients with the disease. The results of the study allow us to recommend a comprehensive treatment for patients with CML.

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