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**IMPORTANCE OF CHARACTER REFLUXATE IN THE  
MANIFESTATION OF CLINICAL AND ENDOSCOPIC EVIDENCE OF  
GASTROESOPHAGEAL REFLUX DISEASE**

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The clinical signs of the 74 patients suffered from gastroesophageal reflux disease are profoundly researched in this article. On the basis of the carried researches it is possible to conclude, that character of bile acid reflux leaves a certain mark on features of display of clinical signs of gastroesophageal reflux disease. Such clinical signs as a pain behind a breast, odinofagy, disfagy and bitterness in a mouth have appeared more characteristic for alkaline, and others as a heartburn, a pain in shoulder-blade areas and an eructation, on the contrary, for sour indicators of bile acid reflux. If environment of reflux acid that erosive, and if alkaline, not erosive the gastritis form.

**Keywords:** gastroesophageal reflux disease, possible to conclude, bile acid reflux.

Now conducted epidemiological studies indicate high prevalence of gastroesophageal reflux disease (GERD) in the population [2,6,10]. Soon she lifted up the scale of GERD in the rank of the individual leader among the common diseases of the digestive system. The incidence of GERD among the population is much higher than official statistics due to the fact that not all patients to seek medical help. The highest prevalence of heartburn, the major symptom of GERD, is celebrated in the United States: from 17.8% to 25% of the population experience it at least once a week [1,7,11]. Our republic on the occurrence of GERD rather vague data. Relying on the results of the individual studies that leak in the pages of literature, it can be argued that the prevalence of GERD in our country is also quite large.

Of course, the severity of the most important aspects of clinical and endoscopic GERD depends on a number of factors involved in its development [1,6,11]. Recently, specialists [3,5,8,9] the vector of its interest consciously

reoriented the nature of the refluxate (XP) as a source of potentiating manifestation of clinical endoscopic evidence of GERD. Obviously, this is related flurry of publications devoted to unraveling the key link in the whole chain link refluxate and symptoms of GERD. However, at the same time, some fragments of this bundle are still not entirely clear, that dictates the need for further research in this direction. Because of that, the real work undertaken in order to identify the possible connection between XP and features displays of leading clinical endoscopic evidence of GERD.

**Materials and methods.** To achieve the objectives were examined 74 patients with GERD, 40 of them (54%) men and 34 (46%) of women aged 18 to 57 years (mean age  $34 \pm 4,2$ ). Verify the diagnosis of GERD based on the results of clinical and medical history, radiographic and endoscopic studies using the classification of GERD, as proposed (2009) by one of the authors [4]. The range of studies included patients with GERD with complaints of heartburn and / or regurgitation at least 18 years of age who provided written informed consent for clinical and instrumental examination. Exclusion criteria were: 1) acceptance of H2-receptor blockers, proton pump inhibitors, prokinetic for 10 days prior to 1st visit, and 2) the associated pathology of digestive tract: gastric ulcer and duodenal ulcer in the acute stage, achalasia cardia, and 3) chronic in acute pancreatitis, cholecystitis, cholelithiasis, 4) pregnancy and lactation, and 5) patients reported adverse events or inefficiency in the study treatment history.

Evaluation of GERD symptoms (heartburn, regurgitation were evaluated according to the severity of their perception) was carried out using a quantitative 4-point Likert scale: no symptom - 0 points, loosely defined, is revealed on questioning - 1 point, moderately expressed - 2 points, constantly felt, but not hinders daily activities - 3 points, heavy, prevents daily activities - 4 points.

The patients were divided into two representative groups by age and number of patients, the average length of history, gender indicators, severity of BMI Quetelet. The main criterion for distinguishing patients served XP, which has been studied by transient pH-measurement, first in vivo, and then in vitro. For the

implementation of the last refluxate removed through the endoscope and then immersed in a test tube, and then ex tempore held RN - Geometry, using a universal pH meter BFRL-S20 (China). On the eve of the study patients take no: antacids, coffee, fruit juices, citrus fruits. Controls were the results of the pH-measurement in vivo 12 healthy individuals. For the study were obtained consent of most participants and members of the Ethics Committee for Human Rights in Biomedicine at the Bukhara Medical Institute. The results obtained is processed statistically using Student's t-test and the difference was considered valid when expressed  $p < 0.05$ .

**Results and discussion.** During the studies the following results were obtained. As can be seen from Table 1, Figures pH meters GERD patients and the control group differed significantly among themselves. In patients with alkaline reflux, GERD (nip) Indicators pH meters averaged  $8,7 \pm 0,9$  and severity, even minimally but still differed from those of the average data ( $6,9 \pm 0,8$ ) control group (the difference was statistically significant  $p < 0.05$ ). Several indicators are looked at differently pH metric study in GERD patients with acid reflux disease (CD), the mean values of which amounted to  $2,6 \pm 0,3$  and also significantly ( $p < 0.001$ ) were indistinguishable from healthy individuals similar results. The pH-measurement of GERD patients with CD and nip in the expression differed significantly. This difference was statistically ( $p < 0.001$ ) significant.

Table 1

**The pH-measurement of the surveyed persons (M ± m)**

The surveyed group:	Number of people	The pH - metr:
1. The control	12	$6,9 \pm 0,8$
2. GERB with acid reflux	38	$2,6 \pm 0,3^*$

3. GERD with alkaline reflux	36	8,7±0,9* **
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Note. \* - Reliability of differences in relation to the control group ( $p_1 < p_2$ , and  $0.001 < 0.05$ ) \*\* - reliability of differences between groups with GERD acid and alkaline reflux ( $p < 0.001$ ).

For a comparative analysis of the clinical manifestations of GERD with the XP was originally installed range of leading symptoms that adversely affect quality of life. Then proceed to the analysis of each symptom of GERD, paying particular attention to their possible connection with XP. In this case, analyzed in more detail the two most important, in our view, the quality of clinical symptoms of GERD: 1) the frequency of occurrence, and 2) the degree of perception. The severity of the latter figure was estimated by the point Likert scale with some additions made by the authors. The results are shown in Table 2. As follows from the data presented in the table, frequency of manifestation of symptoms of GERD leading was different, then some of them were clearly dependent on XP. This dependence is increasingly concerned manifestations regurgitation, odynophagia, at least - a bitter taste in the mouth, heartburn. Among all the clinical signs of GERD more characteristic and at the same time proved stable heartburn. It is depending on the XP spectrum dominated clinical manifestations of GERD. Thus, if the frequency of manifestation of the symptom in patients with CD was 97.3%, the nip when it was slightly less than 75% and appeared. As can be seen, the size difference was not as impressive. But the pronounced difference was in the degree of perception of symptoms of heartburn, is directly correlated XP. The degree of acceptance of heartburn symptoms at one third of the patients with CD was high (+ + +), still have so many moderate (+ +), and the rest of the weak (+) expression. Individuals nip observed several different alignment degree of perception of heartburn. Only at the tenth part of them had high (+ + +), and the remaining medium (+ +) and weak (+) the degree of perception of heartburn were equally represented.

Impressive was the incidence of other equally important clinical sign of GERD - burping. When it was revealed, almost all (94.7%) of GERD patients with CR, the patients nip only in 16.6% of them. **Revealed the contrast in terms of the common symptoms of regurgitation with adequate laboratory and instrumental evidence bases can be useful as a clinical indicator, which allows to differentiate GERD from the CD and nip.**

Table 2.

**Leading indicators of clinical symptoms of GERD, depending on the nature of the refluxate**

Tags:	Indicators of GERD symptoms with acid reflux (N = 38)		Performance GERD symptoms with an alkaline reflux (N = 36)	
	The frequency is expressed.	frequency is expressed. (In basis points)	The frequency is expressed.	frequency is expressed. (In basis points)
1. Izzhoga (waterbrash)	37 ———— 97.3±2,6	3,5±0,9	27 ———— 75 ± 7,2	2,1±0,5*
2. Otryzhka (eructation)	36 ————	3,3±0,6	6 ————	1,4±0,8*

	94,7 ± 3,6		16,6 ± 6,2	
3. Gor.vo mouth	13 ———— 34,2 ± 7,6	1,8±0,4	33 ———— 91,6 ± 4,6	3,8±0,9**
4. Disfagiya	29 ———— 76,3 ± 6,8	2,2±0,5	33 ———— 91,6 ± 4,6	2,5±0,6
5. Odinofa giya	4 ———— 10,5 ± 4,9	2,4±0,6	20 ———— 55,5 ± 8,2	3,1±0,7*
6. Regurgitasio	33 ———— 86,8 ± 5,4	3,1±0,7	32 ———— 88,8 ± 5,2	3,7±0,9*

Note: \* p <0.05, \*\* p <0.001 - significance of the modifications to the group of GERD patients with acid reflux.

Another difference in terms of the identified symptom was burping especially its manifestations in the patients examined. Thus, in patients with CD singles were noted, but the resounding belch. At alkaline refluxate published quiet, serial burping. Moreover, the first burp sometimes accompanied by regurgitation of liquid with sour taste, and in the second bitter. **The identified differences in the manifestation of symptoms in the patients examined burping, combined at times increase, the chances of diagnostic and clinical signs can be very useful in the differentiation of XP.**

The next symptom of GERD, dysphagia was worthy of attention. This clinical sign was observed more frequently in patients with GERD (91.6%) with a nip. At the same time, patients with GERD KR frequency distribution of this symptom was significantly lower and amounted to 76.3%. In addition, dysphagia in patients with different pH value (acid and alkaline) differed by the level of experience of the clinical signs. Thus, with the CD of swallow more often felt at the level of the upper third of the esophagus (oropharyngeal dysphagia), and at nip, on the contrary, at the level of the lower third (esophageal dysphagia). However,

the feeling was dysphagia medium (+ +) to very severe (+ + +) in patients with GERD nip. At the same time, patients with GERD KR is the feeling to be much weaker than the (+). **The differences in the manifestation of symptoms of dysphagia, depending on the pH - refluxate metrics underscore the feasibility of a differentiated approach in the evaluation of the characteristic parameters of the trait that allows you to judge the alleged XP for that period.**

Distinctive features observed in the manifestations of other equally important symptom of GERD - Odynophagia. This clinical sign was recorded more frequently in cases of alkali (55.5%) XP. When he met the CD is much less and was only 10.5%. Such a material difference in the manifestation of symptoms of odynophagia, probably due to the XP, requires special attention to it. **Since, under certain circumstances, its diagnostic potential in the recognition of HR can play a crucial. Odynophagia joining together with other signs of GERD having similar capabilities, can at times increase the role of clinical signs in the differentiation of XP.** As for the perception of symptom severity Odynophagia, then this parameter it is also observed some distinctive features. Feeling pain in the act of swallowing was average (+ +) and high (+ + +) for CD. Then when XP proved to alkaline, these feelings more in line with the weak (+) his graduation.

The clinical signs bitter taste in the mouth, and was more typical for alkaline refluxate indicators. This symptom occurred 91.6% of the nip. At the same time, he met with the CD only 34.2% of the study. **In light of these results it can be assumed that the diagnostic potential sign of bitterness in the mouth is big enough and the presence of other clinical evidence proving it can serves as an indicator in the delineation of XP. It should be emphasized that only a symptom of a more evenly met regurgitation in patients with GERD, regardless of indicators XP.** Equally attractive features were manifestations of endoscopic evidence of GERD-related indicators XP.

According to the data obtained in patients with GERD as a CD and nip much more common form of erosive reflux - esophagitis, peptic than their views. Thus,

the first of which occurs in approximately 8%, while the second only 2% of patients, regardless of GERD indicators XP. In this case, you should specify what forms of erosive reflux - esophagitis were more characteristic of the CD and occurred in 19% of patients with that of XP. In contrast to this, in the nip is much more likely to have non-erosive form of reflux - esophagitis was observed in 21% of patients with a similar XP. Ulcerative form of reflux - esophagitis, as above-mentioned, much less common, but in contrast to the erosive, they are fairly evenly detected in patients with GERD, regardless of the pH-metric indicators refluxate.

Thus, on the basis of these studies we can conclude that XP has a certain effect on the characteristics of clinical and endoscopic manifestations of GERD symptoms. Clinical signs of odynophagia, dysphagia, and a bitter taste in the mouth have been more typical of the nip, while others, such as heartburn, regurgitation, on the contrary, for the performance of acid refluxate. Erosive form of reflux - esophagitis is much more common in the CD, and non-erosive - with nip.

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