About the influence of the way of restoration of the gastrointestinal continuity on function of the pancreas

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"... many clinical observations suggest that people rad e chennye price stomach removal of the organ disease, do not feel healthy. Disorders that develop in the body in connection with gastrectomy reduce the vitality, ability to work, and sometimes lead to death in operated patients. "
(T.I. Tsekhanovich, 1976) [13])

Key words: postgastrectomy syndrome, chronic pancreatitis, esophageal-intestinal anastomosis reconstruction, pancreas, chronic pancreatitis

Introduction

Much of operations on the stomach assumes duodenum (duodenal) passage of food. In this case, the role of duodenum in the digestive pipeline is important and multifunctional. In addition to tons of the duodenum is "conductor" of food from the stomach into the small intestine, having n but intake of food in the duodenum organize coordinated work of the pancreas, hepatobiliary complex, stomach and small intestine, as well as other physiological systems. In addition, in the upper of the duodenum produ withwalks alkalization of the acidic contents of the stomach and the preparation for the action of pancreatic and intestinal enzymes, and at the bottom — mixing with pancreatic juice and bile, continued cleavage of food particles, onset of action of enzymes performing membrane digestion, sun and hydrolysis products syvanie [12].

According to the theory of A. M. Ugoleva, the digestive-transport conveyor consists of three interrelated consecutive stages: 1) n and cavitary schevarenie comprising the formation and hydrolysis of food chyme assembles n comrade to oligo- and monomers in which enzymes play a key role of the pancreas; 2) digestion of the membrane, including the final hydrolysis nutrients occurring in the outer membrane of enterocytes with n power of intestinal hydrolases with

pancreatic enzymes and nutrients dsorbed on, continue to play an active role; 3) Suction and of [3].

Thus, the leading role in this theory is given recessed digestion, which occupy an important position pancreatic enzymes des e PS. However, violation of the recessed digestion may not only be sleds t viem various diseases of the pancreas, but also nym be due to other causes, including operational shutdown PDK passage of food. In this regard, we should again emphasize the great role of the duodenum, in which all the main digestive tracts are combined: gastric, liver, pancreatic and intestinal. All this allows for adjustableVat not only secretion, but also the motor-evacuation activities in zling des-intestinal tract [9].

Dysfunction of the pancreas after the deenergizing of the duodenum from the passage of food after the operation on the stomach was studied in sufficient detail. S. Mayat, V. I. Ryabov (1969). Among the pathogenetic factors of the occurrence of the onset and development of chronic pancreatitis after removal of the stomach (part or whole), the authors distinguished: 1) acute pancreatitis in the postoperative period; 2) the congestion in the duodenum and throw its content of pancreatic prot Ki; 3) dyskinesia of the biliary tract, inflammatory and degenerative processes in the liver and biliary tract; 4) infecting content duodenum resulting lack cholic sour t Nogo barrier, dysbacteriosis; 5) violation of protein metabolism due to reduced n Nogo power dysbacteriosis, resulting in reduced formation of trypsin inhibitor and dystrophic changes of the pancreas, these type of Ninovepancreatitis; 6) the inadequacy of secretive pacing stimulation in the mammary gland, leading to a " thickening " of the secret, a violation of its outflow, the formation of retentioncysts; 7) violation of blood supply to the gland.

T. A. Goldin (1990) believes that the function of the pancreas and liver in patients undergoing resection of the stomach undergoes substantial amendment e neniya. Firstly, in varying degrees, their function is disturbed before and opera tion due to the main process. Secondly, during the operation, to some extent, there is a trauma to the pancreas. When mobil tion and gastric perfusion system suffers total pancreatic innervation, due to which the short and long periods in tissue ee fuss cabins and inflammatory processes with appropriate functional sheniyami bunks in [4].

The questions of the etiology of post-gastrectomy pancreatitis remain the focus of "gastric" Surgeons and subjected to study in detail th NIJ. At the same time, most researchers point to the role of exclusion of DPC from the food passage as the main pathogenetic factor of pancreatitis development. If there are other reasons for the development of pancreatitis after gastrectomy, you can still argue that switching the DPC off from the food passage is not in question.

According to the literature, chronic pancreatitis occurs from 25 to 50% of cases in patients with the disease of the operated stomach [1, 4, 6, 8, 10]. However, the diagnosis and treatment of it is one of the most complicated and, unfortunately, unresolved problems of gastroenterology. The complexity of the problem and conclude etsya that the clinical picture of pancreatitis in these patients takes place against the backdrop of the manifestation of other, more severe pathological syndromes postgastrorezektsionnyh.One radical methods correlator tion to this condition can be an operation aimed at restoring transduodenal passage of food. To this end, prof. G. K. vent a bit nerdy and introduced to the clinic method of surgical treatment of the disease operates on vannogo stomach, comprising reresection gastrojejunostomy zone and restoring transduodenal passage of food to the formation of the AER £ lyuksnogo gastroduoden o — or ejinoduodenoanastomoza [5, 6].

The aim of the study was to evaluate the effect of reduodenization according to the methods of G. K. vent on pancreatic function in patients with chronic pa n kreatitom in the background diseases of operated stomach.

Materials and Methods

An analysis of the results and treatment of 62 patients after a stomach operation with signs of a disease of the operated stomach was performed. Indications for reconstructive surgery were, as a rule, combined postgastreures and syndromes.

Thus, in 29 (46.8%) patients the signs of **dumping syndrome** as the only disease prevailed (14) or in combination with other pathological and syndromes — peptic ulcer ofgastroenteroanastomosis (8) and the syndrome of nasal and esophagus (7).

Isolated **peptic ulcer of gastroenteroanastomosis was** detected in 7 (11,3%) patients, in 8 (12,9%), it was combined with dumping syndrome, and in 4 (6,5%) — with the syndrome of the resulting loop. In this case, all patients had complications of peptic ulcer. In 14 (73.7%) cases of complicated ulcers ne netratsiey, including: in the mesentery of the transverse colon — in 4 (28.6%) — in 5 (35.7%) patients in the mesentery of the jejunum in the pancreas — 4 (28.6%) in the transverse colon — one (7.1%). In 4 (21,1%) cases bleeding was observed, in two (10,5%) — ulcer perforation was revealed.

Afferent loop syndrome complicated during the main process of pathological e Skog (dumping syndrome or peptic ulcers) 14 (22.6%) n patsie comrade. In 11 (78.6%) cases, it was combined with dumping syndrome (7) or peptic ulcer of anastomosis (4).

In 32 (51.6%) patients had various related diseases which require special preparation before surgical vmeshatels m vom or simultaneous operations.

Signs of chronic pancreatitis before reduodenization were detected in 24 (38.7%) patients. Recurrent form was observed in 19 (79.2%) patients, painful — in 5 (20.8%). The main complaints in patients were constant noisy pains in the epigastric region, more in the left hypochondrium, irradi and rushing in the back and left shoulder, intensifying after eating. Special HV and manie was given copies of o- and endocrine functions of the pancreas.

In order to identify the degree of violation of endocrine function of the pancreas, and the study of the regulation of disorders of the nature of its de telnosti I conducted a study with a double load of 50% solution of a glitch on the PS (Staub-Traugott test). The double load of glucose is from bout more specific and informative test for functional untill with tatochnost β- cells compared to a single [2]. Examine the appearance of e Mykh pathological types of curves indicates a different degree of accuracy and insufficient.Evaluation of the glycemic curves was carried out using the Baudouin coefficient.

Scatological qualitative study was carried out before and after pe design. The study of the coprogram was carried out according to standard methods [11].

Determining the level of quality of life of operated patients and assessing whether through a specialized questionnaire Gastrointestinal Quality of Life Index (E. Eypasch, 1995).

Actual data was processed using mathematical statistics in an Excel spreadsheet environment. For each series of variations is determined whether i the arithmetic mean value (M), the arithmetic average error e cal medium (m). The significance of different average arithmetic values opred e Lyali absolute accuracy indicator (P) in the table percentage points Student distribution coefficient as a function of a statistical receptacle chimosti (t) and the number of degrees of freedom (n). Based on that ratio t b face t-determined probability differences (p). The difference was considered a receptacle chimymi at $p < 0.05$, i.e., In those cases where the probability of difference was more than 95%.

Results and discussion

The results of the investigation of the intrasecretory function of the pancreas before and after the operation are shown in Fig. 1. As can be seen from the diagram, for the majority of patients with diseases of operated stomach to reduodenizatsii, was characterized by abnormal curve (bimodal with equal height beneath e ma and bimodal with a predominance of the second "peak"), which is evidence of violation of carbohydrate metabolism.

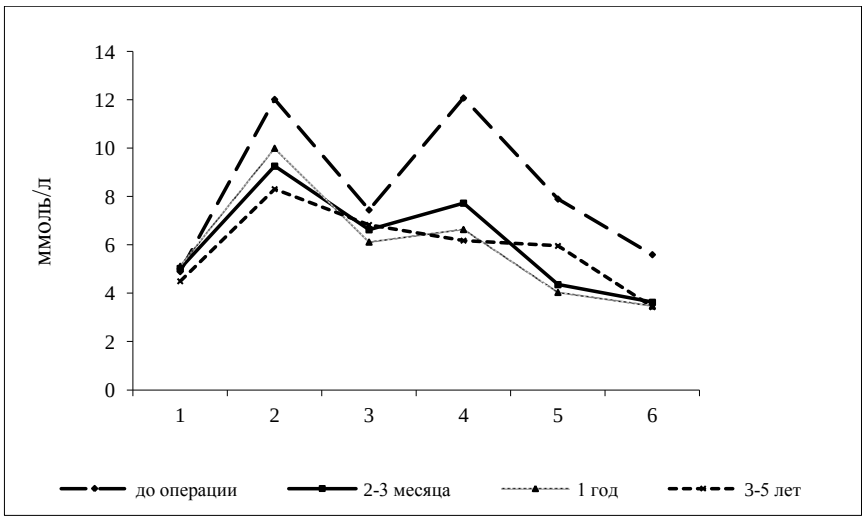

Fig. 1. Glycemic curves in patients before and after surgery reduod e tions.

The hyperglycemic coefficient of Baudouin in this group was 167.6 ± 57.2%, which exceeds the upper limit of the norm (the norm is 35-80%). Baudouin largest coefficient indices marked in patients op e ingly about severe dumping syndrome (214,1 ± 13,3%), and lowest — in patients operated on for an isolated peptich e tion ulcers and afferent loop syndrome (114, 12 ± 22.9%).

One of the most severe clinical manifestations and visual Blem digestion of pr after stomach operations connected with the violation assimilable e Nia food is diarrhea. In the analyzed group of patients before surgery and di yard varying severity occurred in 28 (45.2%) patients. In this case in 15 (53.6%) patients stool for one day was observed 3 — 4 times, 8 (28.6%), liquid stools was 5 — 6 times a day, and, finally, 5 (17.8 %) patients the frequency of the stool reached 8 or more times. It should be noted that the main point about n redelyayuschim stool frequency and consistency, was the nature of food. Most often diarrhea in patients with postprandial sweet, dairy, rude, irritation and zhayuschey food. However, in 6 (9.7%) patients received the character of the food is not ok and binding effect on the bowel movement frequency. In 27 (43.5%) patients, the stool was more often formed (kashitseobrazny), 1 — 2 times a day. The tendency to constipation was noted by 6 (9.7%) patients.

Of course, the frequency of the stool demonstrates problems in the digestive system, however, the most reliable and objective criterion of malabsorption is a coprogram.The vast majority of obsledova n GOVERNMENTAL had different disorders of digestion processes.

The presence of neutral fat in 50 (80.6%) patients allocated in the stool indicates violations in the first phase splitting Well and moat.

Received with food neutral fat, if it is taken in a moderate amount (not more than 100 g), is absorbed almost completely — by 95 — 96%. At the same time

neutral fat incoprograms is almost or completely absent. Fatty food residues found in the form of soaps (alkali and schelochnoz e-earth salts of fatty acids). Since the fat-splitting enzyme lipase is secreted mainly by the pancreatic juice, the diseases of this organ lead to a violation of fat absorption and a significant amount of its drops appears in the coprogram.

The presence of significant amounts in the excrement of fiber and starch in 46 (74.2%) patients indicates a violation of the utilization of carbohydrates.

Results coprological study patients before and reduodeniz tion are shown in Table 1.

Table 1

Coprogram of patients before reduodenization

	-	- / +	+	++
Vegetable fiber indigestible	4	12	32	14
Vegetable fiber is digestible	21	14	17th	10
Muscle fibers without striation	15	12	24	11
Muscle fibers with striation	8	16	19	19
Fat neutral	12	7th	27th	16
Starch	16	6th	22	18

A study of the quality of life of patients with opercular and gastric disease before surgery showed the following. Average gastroint e stinalny index to reduodenizatsii was 97,5 ± 3,4 points. In this case, with a low mymi were parameters in patients after gastrectomy (92,5 ± 5,3) and in the group of patients operated on for dumping syndrome (89,2 ± 5,1).

Higher quality of life was assessed by patients, operated on for peptic ulcer — 100.5 ± 4.8 points.

Reduodenizatsii operation was performed for all patients with approx e neniem jejunogastroplasty formation or direct gastroduodenoan and stamosis according to the methods of G. K. Zherlova (2009).

In the early postoperative period, complications occurred in 9 (14.5%) patients. One of the major complications of early Postoperati Mr. Foot period after reduodenizatsiiwere motor-evacuation disorders, which occurred in 6 (9.7%) patients.

In the early postoperative period (10 -. 14 days) there is a slight decrease in the level of quality of life, especially on the scale of the mental state and physical state. The total score was 96.8 ± 6.1. Such a picture, in our opinion, was associated with an operating trauma accompanied by pain, mobility restriction, etc.

Postoperatively Staub-Traugott sample 53 held n a patient's at different times after surgery. Its results are shown in Fig. 1. The diagram shows the above that the majority of patients are examined for bathrooms late after surgery, have the correct glikemich f ical curve.

However, it should be noted that the hyperglycemic coefficient of Baudouin remained elevated throughout the year after the operation. So, in 3 months. after surgery, he was 98.1 ± 18.5%, after 1 year — 89.1 ± 21.2% (at a rate of 35 — 80%).

In 7 (13.2%) patients in terms persisted up to one year of pathological e Skye curve with a predominance of the second peak. After 3 — 5 years after surgery Pat logical types of glycemic curve were observed, and Baudouin coefficient in these terms equal 77.6 ± 6.4%, which corresponds to normal controls.

These coprograms did not differ much from pre-operational data.

After 3 months. after surgery in 35 (66%) of the 53 patients was chair Ofori lenny m (less mushy), 1 — 2 times a day. In 8 (15.1%) remained in Lenia I have diarrhea, which is well stoped restrictions in diet and for e IOM enzymes. The tendency to constipation was traced in 8 (15.1%) patients. Two patients (3.8%) remained the phenomenon of diarrhea up to 3 — 4 times a day, succumb to bad treatment. It is noted that in these patients before the op e walkie stool frequency reached 8 or more times a day.

Results of coprologic examination of patients three months after the operation are given in Table 2.

Table 2

Coprogram of patients in 3 months. after reduodenization

	-	- / +	+	++
Vegetable fiber indigestible	8	12	24	9
Vegetable fiber is digestible	23	15	9	6
Muscle fibers without striation	19	12	15	7
Muscle fibers with striation	15	15	14	9
Fat neutral	19	10	17	7
Starch	21	11	14	7

As can be seen from Table 2, already after 3 months. after reduodenizatsii etsya noting a positive trend in terms of improving the digestion of fats and ang e vodov.

Thus, as soon as possible after surgery with goes gradual normalization of intestinal digestion: significantly decreases the amount of undigested

carbohydrates and fat, improves Playback process of digestion of protein products and fiber, reduce m Xia number of patients with diarrhea due to normalization of digestion, regeneration and the consistency of the stool is set.

One year after reduodenisation, 44 (84.6%) of 52 patients had a physiological norm: 1 — 2 times a day, decorated (less often mushy); (2 — 3 times a day) — in one patient (1.9%) with severe diarrhea before surgery. The patient himself marked a significant improvement in his condition. The propensity to constipation took place in 7 (13.5%) patients.

One year after the recovery transduodenal passage, disorders of digestion the main ingredients of the food and were significantly reduce. Особенно наглядно свидетельствует об этом «нормальное» переваривание жиров и углеводов — отсутствие в копрограммах крахмала и незначительное присутствие нейтрального жира (табл. 3).

Table 3

Coprogramme patients 1 year after reduodenization

	-	- / +	+	++
Vegetable fiber indigestible	24	16	9	3
Vegetable fiber is digestible	33	17th	2	0
Muscle fibers without striations	39	12	1	0
Muscle fibers with striated	23	29	0	0
Fat neutral	31	14	7th	0
Starch	28	24	0	0

Body weight (up to 3 kg) increased in 19 (36.5%) patients, and in 10 (19.2%) patients the body weight increased by more than 7 kg. None of the patients had elevation e til after surgery weight loss. Number of meals was I lo 4 — 5 times a day. Restricted intake of sweet food 3 (8.3%) of the patient, a cat about rye were operated on for severe dumping syndrome . It should be taken away e tit that a moderate intake of carbohydrates does not cause them the expression pathological symptoms.

The overall quality of life in patients increased by an average of 7.5% and amounted to 112.6 ± 5.1 points.

In terms of more than 5 years after surgery reduodenization in 39 (88.6%) out of the 44 patients examined, the chair was decorated, 1 — 2 times a day. In 5 (11.4%) patients there was a mushy stool, 1 — 2, less often up to 3 — 4 times a day. Against the background of e ma enzyme stool in these patients was normalized and did not exceed 1 — 2 times a day.

Characteristic for coprograms This period is the relative decrease in defecation of plant fiber and muscle fibers, which indicates the normalization of pancreatic digestion (Table 4).

Gastrointestinal index in these terms was 119.9 ± 3.2 points.

Table 4

Coprogramme patients 1 year after reduodenization

	-	- / +	+	++
Vegetable fiber indigestible	25	11	6	2
Vegetable fiber is digestible	24	19	1	0
Muscle fibers without striations	29	12	2	1
Muscle fibers with striated	20	22	2	0
Fat neutral	28	11	5	0
Starch	32	11	1	0

Conclusion

Thus, the operation reduodenization with the formation areflyuk meat gastroduodenoanastomoza, providing for the restoration of a natural passage of food through duodenum , contributes to the recovery of indicators from the possession of carbohydrates of blood, the face seeing the basis of a number of post-gastrectomy disorders, including chronic pancreatitis. Five years after surgery reduodenization the level of quality of life remains stable in the high and practically does not differ from the indices reached by the end of the first year after the operation. SRO ki more than 5 years in 6 (25%) of chronic signs n a n-preserving were kreatita patients.

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About the influence of the way of restoration of the gastrointestinal continuity on function of the pancreas

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Key words: postgastrectomy syndrome, chronic pancreatitis, esophageal-intestinal anastomosis reconstruction, pancreas, chronic pancreatitis

The analysis of results of surgical treatment of 62 patients with postgastrectomy syndrome: 41 (66.1%) men and 21 (33.9%) women aged from 35 to 69 years (middle age 48.2±13.1 years) has been presented. The signs of chronic pancreatitis have been revealed in 24 (38.7%) patients. Relapsing form was observed in 19 (79.2%) patients, painful — in 5 (20.8%) cases. Performance of the reconstructive operations, providing restoration of natural passage of food through duodenal gut, promoted restoration of indicators of the content of carbohydrates in blood, eliminating the basis of a variety of postgastrectomy damages, including chronic pancreatitis in 6 (25%) patients.