

CLINICAL AND MORPHOLOGICAL CRITERIA OF COLITIS IN PATIENTS WITH CHRONIC ISCHEMIC DISEASE OF THE DIGESTIVE SYSTEM

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ABSTRACT

Chronic violation of blood flow in the basin of the abdominal aorta and its unpaired visceral branches leads to ischemia of the abdominal organs. Chronic abdominal ischemia (CAI) is characterized by pain, functional and morphological changes in the abdominal organs. The present study was conducted in order to clarify the causes of abdominal pain syndrome in patients with CAI and the features of their development of ILC. The clinical department of gastroenterology examined 42 patients with diseases of the cardiovascular system and suspected ILC. The age of the subjects ranged from 56 to 80 years, men were 24, women were 18. Of the 42 patients we examined, 41 had arterial hypertension, 40 had coronary heart disease, 31 had CVD, and 7 had atherosclerosis of the vessels of the lower extremities. Myocardial infarction was previously suffered by 8 people, stroke — 5, CABG — 1 patient, abdominal aortic prosthetics — 2 patients, 1 patient had an abdominal aortic aneurysm. According to our data, ischemic intestinal lesion ranks third among other forms of CAI. The present study has also confirmed this position. All 42 patients suffering from cardiovascular diseases with atherosclerotic vascular lesions and impaired metabolism of fats and carbohydrates had clinical and instrumentalsymptoms of intestinal damage, suggesting that they had ILC. Conclusions: The transient, stenosing and gangrenous forms of ischemic colitis, traditionally described in patients with CAI, rarely develop. Much more often, these patients can be found microscopic ischemic colitis

Key words: chronic abdominal ischemia; ischemic colon lesion; ultrasound examination; X-ray examination; colonoscopy; biopsy of the mucous membrane of the colon; microscopic ischemic colitis

INTRODUCTION

Chronic violation of blood flow in the basin of the abdominal aorta and its unpaired visceral branches leads to ischemia of the abdominal organs. Chronic abdominal ischemia (CAI) is characterized by pain, functional and morphological changes in the abdominal organs. Ischemic damage to the colon (IDC) depends on the condition of the mesenteric arteries. Upper The mesenteric artery provides blood supply the proximal sections of the colon (SC) to the splenic bend, and the lower — its

distal sections. A characteristic feature of the blood supply to the colon is the presence of collaterals with the superior mesenteric artery and the Rhyolan arch — a parallel or marginal vessel running along its entire mesenteric edge. With narrowing of the inferior mesenteric artery, segmental ischemic lesions develop in the area of the left (splenic) bend, ileocecal and rectosigmoidal sections. The blood supply to the rectum is carried out by the upper and lower rectum arteries. Due to the rich network of intramural anastomoses between them, the rectum is rarely involved in the pathological process in CAI. The mucous membrane of the colon is also affected unevenly, since the blood supply to the free edge of the colon is much worse than the mesenteric one. Ischemic colitis (IC) is a form of circulatory hypoxic intestinal lesion and is characterized by structural changes in the mucous membrane and other layers of the intestinal tract. IC occurs primarily in elderly and senile people suffering from coronary heart disease, hypertension disease (HD) and widespread atherosclerosis. Concomitant pathology affecting the condition of blood vessels and microcirculation may be dyslipoproteidemia, diabetes mellitus, hypothyroidism. According to our assumptions, ILC occurs much more often than it is diagnosed, due to the variability and non-specificity of its symptoms. Diagnosis is possible only with a comprehensive examination of the patient, including anamnestic, clinical, laboratory-instrumental and morphological methods of examination of the TC and blood vessels supplying it. The present study was conducted in order to clarify the causes of abdominal pain syndrome in patients with CAI and the features of their development of ILC.

MATERIALS AND METHODS OF RESEARCH

The clinical department of gastroenterology examined 42 patients with diseases of the cardiovascular system and suspected ILC. The age of the subjects ranged from 56 to 80 years, men were 24, women were 18. When studying the history of the disease, the frequency of coronary heart disease, HD, cerebrovascular disease (CVD), atherosclerosis of the vessels of the lower extremities, vascular catastrophes in the anamnesis (AVE), surgical interventions on vessels was carefully evaluated (CABG, prosthetics of the abdominal aorta), metabolic syndrome, thyroid pathology glands. Special attention was paid to the extra-abdominal and abdominal manifestations of atherosclerosis, the severity of concomitant cardiovascular pathology and risk factors for the development of vascular pathology. During the examination of the patient, attention was paid to palpatory and auscultative signs of damage to the abdominal aorta and other vessels. The lipid spectrum of blood (OHC, LDL-C, HDL-C, TG) and blood viscosity indices were studied in detail. Ultrasound assessment of the vessels was carried out by the RT-X-200 apparatus. The diameter of the abdominal aorta and its thickness were measured walls, the presence of calcifications and parietal thrombi. Doppler examination of the aorta and its unpaired visceral arteries was performed on the Aloka-1100 device. The following parameters reflecting the hemodynamics of the

arterial bed were determined: maximum linear blood flow velocity (Vmax), minimum linear blood flow velocity (Vmin), average blood flow velocity (TAMX), pulsativity index (PI), resistance index (RI) The systolic diastolic ratio (S /D), as well as a qualitative characterization of the frequency spectrum of Doppler curves were performed. All patients underwent colonoscopy or an X-ray examination (irrigoscopy). Attention was paid to the features of motor function, edema, hemorrhages, ulcerative erosive lesions, pseudodiverticles, pseudopolypes and strictures described in the literature in patients with ILC. Histological examination of the mucosa of the TC was performed in 23 patients.

THE RESULTS AND THEIR DISCUSSION

Of the 42 patients we examined, 41 had arterial hypertension, 40 had coronary heart disease, 31 had CVB, and 7 had atherosclerosis of the vessels of the lower extremities. Myocardial infarction was previously suffered by 8 people, stroke — 5, CABG — 1 patient, abdominal aortic prosthetics — 2 patients, 1 patient had an abdominal aortic aneurysm. Metabolic disorders were found in 14 patients, of whom 4 people suffered from diabetes mellitus. Impaired glucose tolerance was detected in 4 people, obesity in 6.7 patients were diagnosed diseases of the thyroid gland (nodular goiter, autoimmune thyroiditis, more often in the stage of drug-compensated euthyroidism). Two of them underwent subtotal thyroid resection.

Abdominal pain syndrome was observed to some extent in all 42 patients. The localization of pain varied widely, but in 29 of them (69%) it prevailed in the upper half of the abdomen, in 11 (26%) people — in the left half of the abdomen and in 15 (36%) — mainly in its lower parts. The pain characteristics were also varied.

So, in 34 (81%) they were aching, periodic or constant, in two (4.8%) — pulsating and in four (9.5%) — cramping. Severity and discomfort in the epigastric and mesogastric regions after eating were felt by 13 (31%) patients. Half of the patients noted the association of abdominal pain with eating or physical activity. In this regard, 5 (12%) patients had exhaustion associated with sitophobia (fear of pain after eating), which is known to be considered a particularly characteristic sign of abdominal ischemic syndrome. Flatulence and rumbling in the abdomen were noted 31 (74%) and 9 (21%) people, respectively. 16 (38%) patients complained of constipation, 10 (24%) of diarrhea, and 10 (24%) of unstable stools. During examination, systolic murmur over the abdominal aorta was heard in 25 (60%) patients, in 29 (70%) it was thickened, painful and dilated. Palpation of the abdomen in patients showed to varying degrees abdominal distension, splashing noise in the caecum, soreness and spastic contraction of the sigmoid colon.

Thus, the data from the clinical study suggested a link between the above symptoms and ILC. Laboratory blood tests in 11 patients showed a moderate increase

in hemoglobin and erythrocytes, which is an indirect sign of impaired microcirculation and hemorheology. The confirmation was changes in the coagulogram, which was examined in 27 patients: 17 of them showed signs of hypercoagulation, and 10 showed signs of hypocoagulation. Blood lipid spectrum disorders were found in 33 (72%) patients. 21 of them had type A dyslipoproteidemia. Ultrasound examination of the aorta revealed signs of atherosclerotic lesion in 9 (21%) patients abdominal region: unevenness and thickening of the aortic walls, parietal calcifications. In 1 patient, an aneurysm of the abdominal aorta was detected with an extension of its infrarenal section to 3.8cm and a wall-mounted floating thrombus. A Doppler study was conducted in 40 patients, and all had lesions from two to four vessels. 30 of them had both qualitative and quantitative signs of impaired blood flow in emergency situations, OPA, and CA, and 13 people had VBA. Qualitative signs of impaired blood flow in emergency situations, OPA, CA were found in 34 people, 13 of them — and according to the WBA. Quantitative changes in blood flow through these arteries were noted in 35 and 19 patients, respectively. Thus, blood flow indicators confirmed the presence of CHAI in the examined patients. It is known that the degree of functional and morphological disorders of TC associated with its ischemia varies within large limits. Our research confirms this position. An X-ray examination of the TC was carried out 21 patients, 25 — colonoscopy. In 18 patients, there was a decrease or increase in tone, insufficiency of the bauginia flap. In 19 subjects single or multiple diverticula were identified, in 13 — polyps ranging in size from 0.2 to 0.5 cm, more often located in the left sections of the TC. Colonoscopy revealed foci of hyperemia and erosion in the sigmoid colon in two patients. Diverticula, polyps and erosive-inflammatory changes were observed mainly in the left parts of the TC in patients with pronounced qualitative and quantitative disorders of blood flow. They revealed 2-3 vascular, hemodynamically significant lesions of emergency situations, OPA and CA. Qualitative and quantitative changes were also observed in every third patient at the same time signs of impaired blood flow through the BBA. The biopsy was performed in 23 patients. Biopsies were obtained from the area of the splenic angle (8), the middle third of the sigmoid colon (4) and from the rectosigmoid bend (11) of the TC. Histological examination revealed dystrophic changes in epithelial cells and goblet cells in 21 of the 23 examined patients, of which 4 had acute erosions. The majority had edema of their own plate and its infiltration by plasma cells and lymphocytes with an admixture of eosinophils. 2 people have lymphatic follicles in its own plate, 1 has a hyperplastic polyp. Microcirculatory disorders were revealed in 16 patients: vascular atony, erythrocyte stasis, blood clots of various origins, destruction of vessels with erythrocyte extravasates, desolation of vessels of the microcirculatory bed. In 2 patients, the mucous membrane of the colon was unchanged. Thus, in almost all patients with clinical symptoms of ILC, signs of microcirculation disorders and inflammation were found in the mucous membrane of

the sigmoid colon, characteristic for ischemic damage. Microscopic signs of ischemia appeared even before the development of macroscopic changes. Histological examination of the mucous membrane in these cases revealed superficial necrosis of the epithelium, a decrease in the number of goblet cells, focal lymphoid cell infiltrates, paresis and fullness of blood. These changes were accompanied by desolation of blood vessels, the development of stasis, thrombosis of the microcirculatory bed and plasmorrhagia. The described morphological changes in the mucous membrane of the sigmoid colon, revealed by biopsy, we attributed to the earliest reliable signs of ILC.

CONCLUSIONS:

1. The transient, stenosing and gangrenous forms of ischemic colitis, traditionally described in patients with CHAI, rarely develop. Much more often, these patients can be found microscopic ischemic colitis.
2. Characteristic symptoms of microscopic ischemic colitis: abdominal pain with a predominance in the left iliac region, appearing after eating, constipation, abdominal discomfort and flatulence. On examination, the sigmoid colon is painful, spasmodic, and the caecum is more often dilated, a positive symptom of Obraztsov is characteristic.
3. Pathohistological signs of microscopic ischemic colitis are necrosis of the superficial epithelium, a decrease in the number of goblet cells, focal lymphoid cell infiltrates and microcirculatory disorders with the development of stasis, thrombosis and plasmorrhagia in the proper plate of the mucous membrane of the colon.

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