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CLINICAL AND LABORATORY FEATURES OF THE COURSE OF PANCREATIC CANCER

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Abstract
The term “pancreatic cancer” includes a group of malignant neoplasms that develop in the pancreatic parenchyma: head, body and tail of the pancreas. The main clinical manifestations of these diseases are abdominal pain, anorexia, weight loss, general weakness, jaundice [7,8].

Keywords: Pancreatic cancer, clinical manifestations, malignant tumor, regional lymph nodes, old age.

Introduction

Every year, 8-10 people for every hundred thousand people in the world get pancreatic cancer. More than half of cases occur in the elderly (63% of patients diagnosed with pancreatic cancer are over 70 years of age). Men are more prone to this type of malignancy, and pancreatic cancer develops one and a half times more often in them [3,4,5,6]. Malignant pancreatic tumor is prone to metastasis to regional lymph nodes, lungs and liver. Direct tumor growth may lead to its penetration into the duodenum, stomach, adjacent parts of the large intestine [7,8,9].

The exact etiology of pancreatic cancer has not been elucidated, but factors contributing to its occurrence have been noted. However, in 40% of cases, pancreatic cancer occurs for no apparent reason. There is a markedly increased risk of cancer in people who smoke a pack or more of cigarettes daily, who consume large quantities of carbohydrate-containing foods, and who have undergone gastric surgery.

Diseases that contribute to pancreatic cancer include:

- diabetes mellitus (both type 1 and type 2)
- Chronic pancreatitis (including genetically determined)
- hereditary pathologies (hereditary non-polyposis colorectal carcinoma, familial adenomatous polyposis, Gardner syndrome, Hippel-Lindau disease, ataxia-telangiectasia).

The likelihood of developing cancer increases with age [4,5,6].

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Classification of pancreatic cancer

Pancreatic cancer is classified according to the international classification system of malignant neoplasms TNM, where T - tumour size, N - presence of metastases in regional lymph nodes, and M - metastases in other organs.

However, in this case the classification is not sufficiently informative with regard to the operability of cancer and prognosis of therapy efficiency, since the general state of the organism plays a significant role and the prospect of curability.

Symptoms of pancreatic cancer

Pancreatic cancer is accompanied by the following clinical manifestations: abdominal pain in the area of the pancreas (upper half, with irradiation to the back, sometimes shingles). With the growth of the tumour, the pain symptom increases. For pancreatic pain is characterised by its intensification when bending.

At localisation of a tumour of glandular tissue in the region of the head of the pancreas with the overwhelming majority of cases jaundice is noted, which can be accompanied by skin itching, darkening of urine and stool discolouration [3,4,5].

Another frequent symptom of a malignant pancreatic tumour is weight loss. In case of tumour localisation in the body and tail of the gland, weight loss is noted in all patients, in case of pancreatic head cancer the body weight decreases in 92% of patients. This symptom is associated with impaired fat absorption in the intestine as a result of insufficient sectoral function of the pancreas.

Anorexia is noted in 64% of cases of pancreatic head cancer (in other tumour localisations this symptom is noted in only 30% of patients). When a large tumour compresses the duodenum or gastric lumen, vomiting may be noted. Secondary diabetes mellitus develops in 25-50% of cases and is usually accompanied by polyuria and polydipsia. When the tumour is located in the body or tail of the pancreas, splenomegaly, varicose veins of the oesophagus and stomach (with episodes of bleeding) may be noted. Sometimes the clinical picture runs like acute cholecystitis or pancreatitis. When the peritoneum is affected by metastases, intestinal obstruction due to narrowing of the intestinal lumen is possible.

The course of pancreatic cancer is characterised by a gradual increase in symptomatology, ranging from a low-expressed, mild pain syndrome to a pronounced diverse clinic. In case of timely referral to a doctor and early detection of the tumour, the prognosis for treatment and further survival is significantly improved [8,9].

In addition to CA 19-9, CA 242 and REA are used in pancreatic cancer, and the significance of CA 72-4 has been discussed. The advantage of these markers is that their level is independent of the manifestations of cholestasis. However, the sensitivity of CA 242 for the diagnosis of pancreatic cancer varies from 41 to 75% with a specificity of 85-95%. With equal specificity (90%), the sensitivity of CA 242 for the differential diagnosis of pancreatic cancer and chronic pancreatitis is higher than CA 19-9 [14,15,16].

These oncomarkers are significant independent prognostic factors: median survival is 8 and 20 months for patients with CA 19-9 concentrations above and below the median (4, 7). After surgery, the median survival increases with normalisation of CA 19-9 levels. The prognosis for patients

with preoperative CA 242 levels less than 25 U/ml is significantly more favourable than for those with higher CA 242 concentrations, regardless of the stage of the cancer process [15].

A decrease in CA 19-9 of more than 20% from baseline after eight weeks of polychemotherapy is considered a better indicator of treatment response and survival than CT scans. Dynamic determinations of CA 19-9 levels in patients after chemotherapy predict the likelihood of disease recurrence with a sensitivity of 100% and a specificity of 88% [1, 6]. In conclusion, the determination of oncomarkers provides an opportunity for early detection of pancreatic tumours during screening examinations of high-risk patients and their identification [12,13,14].

Oncomarkers are of real help in monitoring the course of the disease, assessing the efficacy of combined treatment (pancreatic resection, adjuvant or neoadjuvant antitumour therapy, systemic chemotherapy. radiochemotherapy, immunotherapy) and prognosis. The latter is of interest for subdividing patients into risk groups in order to subsequently determine the indications for supplementing surgical treatment with chemotherapy, hormone therapy, or radiation therapy [10,11,16].

Dynamic monitoring of oncomarkers CA 19-9 and CA 242 allows objectifying the remission of cancer, detecting recurrences long before their clinical manifestation. According to WHO recommendations, tests should be performed at least once a month during the first year after surgical treatment, once every two months during the second year, and once every three months during the third year of follow-up [7,8,9].

The combination of several markers (CA 19-9, REA, CA 242, telomerase) can be successfully used to identify the primary tumour localisation in case of its metastasis with PET-CT. Dynamic study of oncomarkers level allows differentiating benign and malignant pancreatic disease by the rate of marker level increase, which is extremely low in benign diseases [4,5,6].

Determination of serum markers (CA 19-9, CA 242) allows to identify groups of patients at high risk for the development of malignant disease of the pancreas, to establish the presumed source of the tumour in patients before the beginning of in-depth instrumental examination, which helps to determine the list of appointment of really necessary diagnostic methods, to determine the primary source of generalized malignant process in patients with advanced forms of the disease, to build the correct algorithm of treatment of pancreatic cancer [1,2,3].

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