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DIAGNOSTIC AND TREATMENT TACTICS OF MINIMALLY INVASIVE SURGICAL TREATMENT OF PANCREATIC CYSTS

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ANNOTATION

The relevance of the treatment of pancreatic cysts (PJ) is determined by the increase in the incidence of pancreatitis, a significant number of complications and high mortality. In recent decades, there has been a steady increase in destructive forms of pancreatitis, and accordingly, the number of pancreatic cysts has increased. Pancreatic cysts in 18-68% cause various complications (suppuration, perforation, bleeding, internal and external fistulas, malignancy), which determines the high mortality rate - 9.2-53%. The nature and scope of surgical intervention depend on the etiology, the presence or absence of a connection between the cyst and the ductal system, and the presence of complications.

The high prevalence of cystic lesions of the pancreas, the difficulty of choosing the optimal method of treatment require the creation of a rational, convenient for clinical practice diagnostic and therapeutic algorithm. Dissatisfaction with the results of treatment and a large number of complications prompt a search for a new, so-called gold standard in the treatment of patients and the determination of the real place of minimally invasive and open surgical methods.

Keywords: chronic pancreatitis, pancreas, pancreatic cyst, pseudocyst, minimally invasive surgery.

INTRODUCTION

The prevalence of CP over the past 5 years has increased by 3 times, while people of young and working age are more likely to get sick, which causes disability in 15% of patients and leads to economic costs both at enterprises and in the country as a whole [2].

Pancreatic cysts in the process of formation and clinical course in 18-68% of cases cause various complications (suppuration, perforation, bleeding, internal and external fistulas, malignancy), which determines the high mortality rate - 9.2-53% [7, 12, 14] .

At the present stage of treatment of patients with pancreatic cysts, there is a general trend of introducing minimally invasive interventions into surgical practice. Endoscopic and percutaneous operations, which are performed under the control of modern tracking instruments, have gained popularity due to low trauma and relative safety [2, 3, 7, 13]. Echolocation [4, 7, 14] and CT [9, 11] are most often used as a visual control over the course of percutaneous punctures and drainage of the pancreatic SC [10, 18, 20], less often - X-ray television [10, 18, 20].

The introduction of minimally invasive technologies in some cases can be an alternative to traditional methods of treatment [18,22]. A number of authors assess the results of percutaneous puncture-drainage interventions as promising [1, 3, 6, 13, 19]. However, there is an opinion in the literature about the limited role of these interventions in the complex surgical treatment of PC [2, 5, 8, 15, 16], since we should not forget that, despite the low invasiveness, in 7–34.6% of patients develop such severe complications as the formation of external pancreatic fistulas, bleeding into the lumen of the organ, septic reactions [7, 11, 17, 19]. Cases of lethal outcomes associated with sepsis, acute pancreatitis, and myocardial infarction have been described [1, 10, 11, 21].

PURPOSE OF WORK

To develop a selective tactics of surgical treatment of patients with cystic formations of the pancreas.

MATERIALS AND METHODS

Surgical treatment was subject to 46 patients with pancreatic cysts, who were in the Department of Surgery in 1 city hospital No. 1 in Tashkent in the period from 2011 to 2023. True cysts occurred in 5 cases (10.87%), pseudocysts were noted in 41 patients (89.13%). The mean age of the patients was (49.6 ± 1.4) years. Punctures under sonological control were performed with Chiba needles (G18–22); standard kits with pig tail drainage were used for cyst drainage.

RESULTS

According to the timing of cyst formation, we single out a period of up to 2 months, characterized by the appearance of extrapancreatic fluid accumulations, up to 3-4 months - a period characteristic of the formation of a young cystic cavity, and periods of more than 4 months, when a mature cystic cavity is formed.

The localization of cysts (their extra- or intrapancreatic location), compression of neighboring organs (Fig. 1a) or distal parts of the pancreas, wall thickness were assessed, which made it possible to judge the maturity of the cysts. At the same time, such an important characteristic for the choice of treatment tactics as connection with the ductal system, according to ERCP data, could be established only in 28.75% of cases (Fig. 1b)

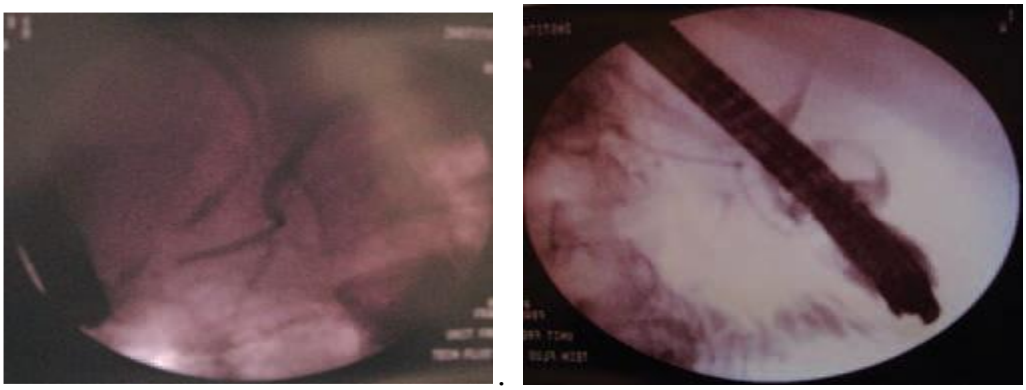

Figure 1 — ERCP: on the left a) compression of the common bile duct by pancreatic pseudocyst; on the right b) the connection of the cyst of the pancreas with the main pancreatic duct

When visualizing the unchanged main pancreatic duct during ERCP under sonological control, puncture and aspiration of cysts were performed, which, according to CT data, were located in the projection of the head, body, or tail of the pancreas (Fig. 2a, b). Next, an assessment of enzymatic activity and a cytological examination of the contents of the cystic cavity were carried out. Low amylase activity and the absence of cellular atypia allowed one or two aspirations to be limited. If the size of cystic formations was more than 6 cm, external drainage was performed under sonological control.

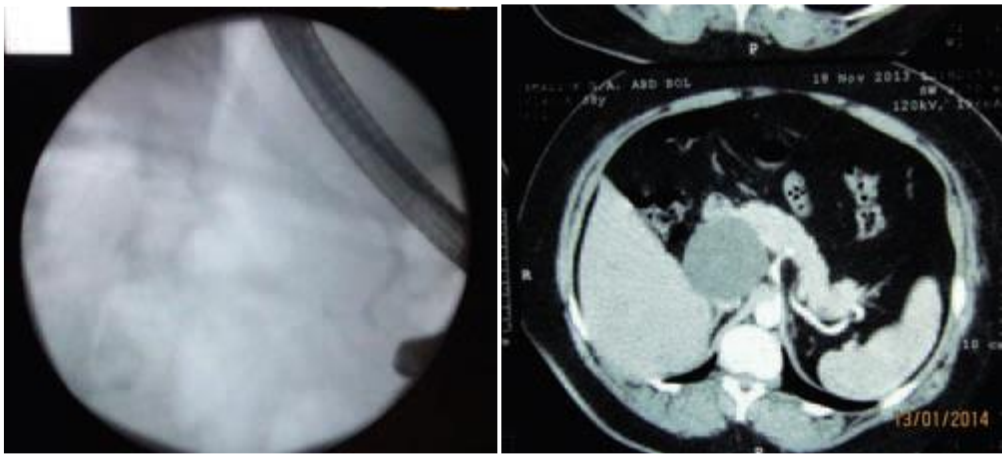

Figure 2 — on the left a) ERCP, normal wirsungogram; on the right b) pancreatic tail cyst

With a normal wirsungogram according to ERCP data and the presence of cystic formation of the pancreatic tail, with the ineffectiveness of mini-invasive methods, distal resection of the pancreas was performed, while the absence of ductal hypertension made it possible to treat the proximal pancreatic stump without pancreatodigestive anastomosis (Fig. 3a, b).

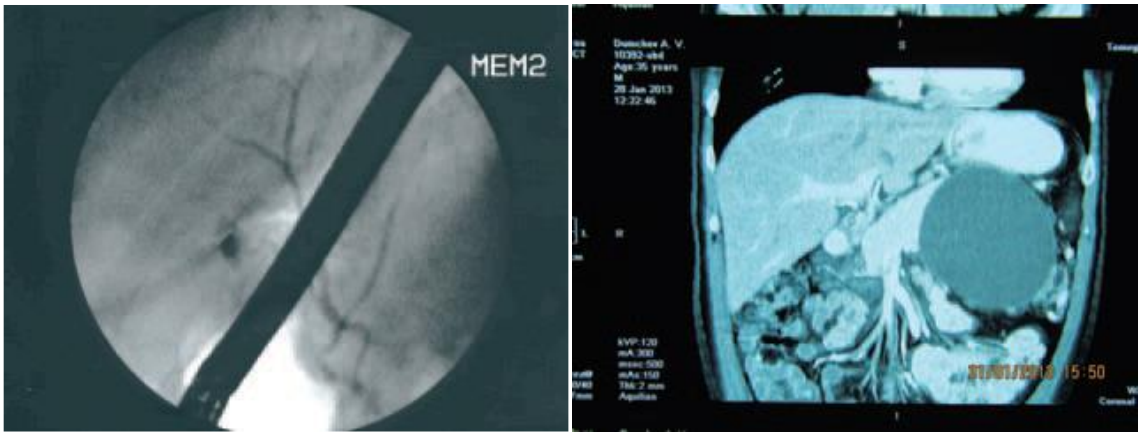

Figure 3 — on the left a) ERCP, normal wirsungogram; on the right b) pancreatic tail cyst

With dilatation of the main pancreatic duct, the presence of cystic formation of the pancreatic head, indications for internal drainage were set (Fig. 4a, b). We agree with the opinion of M.V. Danilova et al. (2011) that percutaneous drainage of pancreatic pseudocysts against the background of intrapancreatic hypertension is accompanied by the occurrence of cyst recurrence and the presence of long-term pancreatic fistulas, which requires internal drainage [9].

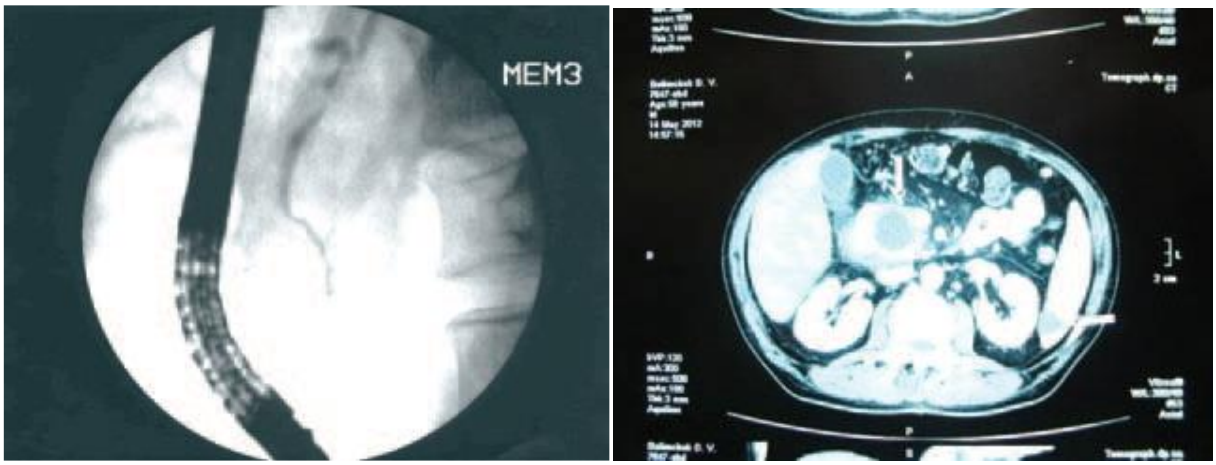

Figure 4 — on the left a) ERCP, virsungodilatation with segmental obstruction in a patient with pancreatic pseudocyst; right b) CT of the same patient with a cyst of the pancreatic head

The nature of surgical interventions is displayed in Table. 1.

Table 1 - The nature of surgical interventions

The nature of the surgical intervention	Number of patients	
	N	%
Puncture, aspiration of cyst, fluid accumulation under ultrasound control	7	15,2
External drainage of the cyst under ultrasound control	8	17,4
External drainage of the cyst under ultrasound control + distal resection of the pancreas, splenectomy	4	8,7
External drainage of the cyst under ultrasound control + cystoduodenostomy	4	8,7
Cystopancreatojejunostomy	18	39,1
Operation Frey	5	10,9
Total	46	100

Complications occurred in 4 patients (8.7%): drainage dislocation during external drainage of the pseudocyst — 1, bleeding into the cyst cavity during external drainage under ultrasound control — 2, pancreatojejunoanastomosis suture failure — 1. There were no lethal outcomes.

CONCLUSION

Thus, the above data indicate that patients with pancreatic cysts need an individual approach in choosing treatment tactics. The first choice measure in the complex therapy of this pathology is the use of minimally invasive puncture-drainage technologies, which were an effective method of treatment in 32.8% of cases.

An analysis of the literature and our own data obtained in the treatment of patients with pancreatic cysts indicates that the choice of surgical treatment method should be determined not only by the size, localization, number of cysts and their complications, but also by the nature of the complications of the gland itself in the form of acute or chronic inflammation, the presence of calcifications, the degree of fibrosis of the pancreas and the state of the ductal system. Any

surgical intervention should be aimed not only at eliminating the complication of the disease - cysts, but also at the cause of its occurrence, taking into account the violation of the outflow of pancreatic contents and intraductal hypertension.

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