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RESULTS OF WHIPPLE PROCEDURE FOR PERIAMPULAR TUMORS AND TUMORS OF ADJACENT ORGANS

Introduction

Pancreaticoduodenectomy (Whipple procedure) is an operation used to treat malignancies in the pancreatic head, periampullary region, and distal bile duct. The intricacies of the reconstructive stage, which involves the creation of an anastomosis with the pancreatic stump, and the requirement to perform multivisceral resection in complicated topographic conditions because of contact with major vessels, which are frequently involved in the tumour process, make PDE one of the most difficult surgical procedures in abdominal surgery. PDE has postoperative complications in 20–70 %, with haemorrhage and pancreatic fistula being the most severe [1, 2].

An epidemiological study of 39,700 instances of pancreatic cancer found that the 5-year relative survival rate of patients rose from 7.9 to 23.7% in 2002–2016 [3]. Accordingly, the 3-year survival rates were 10.0%, 18.5%, and 35.3% in 1989–2000, 2001–2013, and 2014–2019, respectively [4]. The 5-year survival rate for ampulla of Vater cancer ranges from 19 to 57%, depending on the tumor's histological type [3, 4]. This percentage varies between 20 and 46.6% for patients with common bile duct carcinoma [4]. Preoperative biliary drainage (PBD) operations had a negative impact on the risk of complications, according to a meta-analysis of 22 retrospectives and 3 randomised controlled studies, which included 6214 patients who had PDE for pancreatic head cancer [4].

Additionally, several studies show that PBD has a detrimental effect on the long-term therapy results of individuals with pancreatic head cancer. Furthermore, patients who received percutaneous drainage had lower survival rates than those who received endoscopic stenting [5]. In contrast, endoscopic transduodenal stenting had a negative impact on 5-year survival and the frequency of distant metastases when compared to percutaneous drainage in a comparative analysis of the long-term outcomes of PDE for ampulla of Vater cancer in a series of 80 patients [5]. PDE should be conducted without preoperative biliary drainage in "asymptomatic" (without cholangitis and coagulopathy) individuals with a total bilirubin level less than 250 mmol/l.

Goal

To evaluate short- and long-term effects of PDE on tumours of the pancreatoduodenal zone and surrounding organs.

Material and methods of research

Between June 1988 and June 2023, 325 patients who had total pancreaticoduodenectomy (TPE) or PDE in the oncoabdominal department of the Gomel Regional Clinical Oncology Dispensary. The median age of the patients was 58 (50; 64), with ages ranging from 21 to 75. There were 124 (38.2%) female patients and 201 (61.8%) male patients. Surgery was required for malignant neoplasms of the periampular tumors in 248 (76.3%) cases. Surgery was necessary in 38 patients (13.4%) due to external invasion of the pancreatic and duodenum (mostly from stomach and colon tumours). Based on postoperative histological examination data, metastases from renal cell carcinoma and cutaneous melanoma to the head of the pancreas were identified in 4 patients (1.2%), while multiple myeloma with duodenal and skull bone damage, complicated by bleeding

and anaemia, was diagnosed in 1 patient (0.3%). During postoperative histological investigation, benign tumours and non-neoplastic pathology were found in 31 individuals (9.5%). We were unable to rule out a malignant tumour in these patients based on the findings of the preoperative examination. Ductal adenocarcinoma was the most prevalent histological form of pancreatic cancer (135; 85.4%), followed by neuroendocrine tumours in 12 patients (7.6%), cystadenocarcinomas in 3 patients (1.9%), and nonspecific pancreatic cancer in 8 patients (5.1%). 314 instances (96.6%) underwent PDE, while 11 cases (3.4%) underwent TPE.

The results of the research and their discussion

The postoperative complication rate was 41.8%. In-hospital mortality was 5.5%, the 90-day mortality rate was 7.7%, and the mortality rate for people over 70 was 17.7%. The most common consequence and leading cause of death was postoperative infection, which primarily manifested as pancreatic fistula (25.5%) following PDE and intra-abdominal abscesses (27.3%) following TPE. Following pylorus-preserving procedures and gastric resection, the incidence of gastric stasis was 9.1% and 10.8%, respectively (P=0.5). Following R0 and R2 procedures, the median 5-year survival was 20.0 (10.0; 81.0) and 8.0 (5.5; 13.0) months (P=0.0008), while the total 5-year survival was 28.2±3.0% and 0%. Patients with pancreatic head cancer had an overall 5-year survival of 19.8±3.5%, ampulla of Vater cancer 35.0±6.2%, common bile duct cancer 59.3±12.9%, duodenal cancer 33.6±15.7%, gastric cancer 19.3±8.5%, and colon cancer 40.0±15.5% (P=0.02). As the illness stage increased, survival declined for all nosological entities. Patients with pancreatic head cancer, including those with ductal adenocarcinoma and neuroendocrine tumours, had an overall 5-year survival rate of 14.7±3.5% and 77.8±13.9%, respectively (P<0.001). Following single-stage surgery and PBD, the overall 5-year survival rate for patients with pancreatic head tumours was 40.4±4.6% and 13.0±3.4%, respectively (P = 0.0003).

Conclusions

The most common complications of PDE are surgical infection, which was the primary cause of death and was typically identified as pancreatic fistula. Surgical treatment of individuals older than 70 is the most difficult problem. The utilisation of pancreatic ductal drainage, tumour spread, and the existence of residual tumour were all linked to poor survival across all clinical entities. Patients with pancreatic ductal adenocarcinoma had the lowest survival rate.

LITERATURE

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