A Serous Cystadenocarcinoma of the Pancreas Diagnosed With Lymph Node Metastasis

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Abstract- Serous cystic neoplasms of the pancreas account for 10% to 16% of all pancreatic cystic masses. Serous cystic neoplasms were evaluated as benign pancreatic masses. For all that, the first serous cystic neoplasm with malignancy criteria was described by George in 1989. Only 10 cases have been observed until today. A 53-year-old female patient presented with complaints of jaundice and abdominal pain. Her past medical history revealed pancreatic cysts during the examination for abdominal pain. Computed tomography revealed a cystic mass of approximately 8 cm in size with a solid component originating from the head of the pancreas and leading to obstruction in the bile duct. She underwent pylorus-preserving pancreaticoduodenectomy and was discharged on Day 12 due to the absence of any surgical abnormality during the postoperative follow-up. On examination of the surgical specimens, a multiloculated cystic tumor with a serous content was detected. Tumor metastasis which demonstrated a positive reaction with cytokeratin 7 and cytokeratin 19 in the celiac lymph node biopsies was detected. The tumor was found to have a histomorphologically benign appearance and was reported as a serous cystadenocarcinoma based on the desmoplastic stroma and lymph node metastasis. Cystic neoplasms of the pancreas can be followed conservatively. Malignant transformation in pancreatic serous cystadenocarcinoma should be kept in minds such as pancreatitis, bile duct obstruction, and new-onset or increased complaints during follow-up.

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Keywords: Pancreas; Cancer; Cystadenocarcinoma; Cystadenoma

Introduction

The prevalence of serous cystadenocarcinomas of the pancreas has been reported as about 3% and has gradually been in the increase with the identification of the first case in 1989 (1). Two factors have been deemed responsible for this increase in the prevalence of cystadenocarcinoma of the pancreas: The first of these is the detection of incidental pancreatic cysts in asymptomatic patients, alongside advances in radiological imaging procedures. The other is the increased awareness of radiologists and clinicians concerning cystadenocarcinomas of the pancreas, which were previously considered benign (2). The current notion is that malignant differentiation of pancreatic cystic neoplasms is a possibility. Herein, we aimed to present a serous cystadenocarcinoma of the pancreas diagnosed with lymph node metastasis.

Case Report

A 53-year-old female patient presented with complaints of jaundice and abdominal pain. The patient was found to have a documented weight loss of approximately 10 kg during the past one month when the abdominal pain became increasingly severe. Her past medical history revealed pancreatic cysts during the examination for abdominal pain. She was under follow-up for the past one year. Laboratory test results were as follows: aspartate aminotransferase: 150 U/L, alanine aminotransferase: 180 U/L, creatinine 0.7 mg/dL, total bilirubin: 5 mg/dL, international normalized ratio (INR) 1.8, increased carcinoembryonic antigen (CEA): 250, and CA 19-9: 500 U/ml. No pathological findings were reported. Computed tomography (CT) revealed a cystic

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mass of approximately 8 cm in size with a solid component originating from the head of the pancreas and leading to obstruction in the bile duct (Figure 1A).

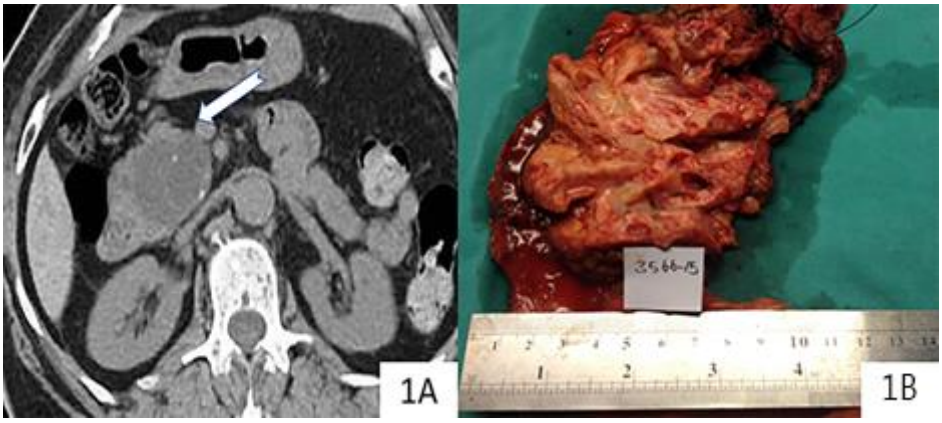

Figure 1A. A cystic mass with a solid component originating from the head of the pancreas and leading to obstruction in the bile duct was revealed. 1B. on gross examination of the surgical specimens, a multiloculated cystic tumor whose size ranging between 0.1 and 3 cm. invading the entire pancreas was detected.

The patient was scheduled for pancreaticoduodenectomy following the detection of pancreatic head involvement alone on positron emission tomography/CT (PET/CT). A written informed consent was obtained from the patient. She underwent pylorus-preserving pancreaticoduodenectomy and was discharged on Day 12 due to the absence of any surgical abnormality during the postoperative follow-up. On gross examination of the surgical specimens, a multiloculated cystic tumor with a smooth inner face was detected with a size of 9x7x6 cm, invading the entire pancreas (Figure 1B). The cyst had a serous content and a size ranging between 0.1 and 3 cm. The cystic structure demonstrated small papillary structures in the inner surface (Figure 2A). The tumor had a desmoplastic stroma in some areas (Figure 2B). Tumor cells immunohistochemically suggested a strong cytoplasmic reaction with cytokeratin 7 and cytokeratin 19 (Figure 2C-D).

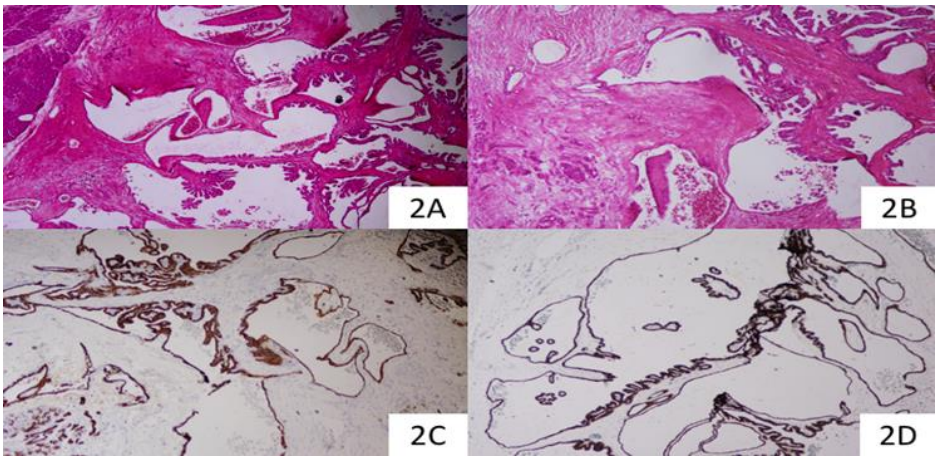

Figure 2. The cystic structure demonstrated small papillary structures in the inner surface (A), and desmoplastic stroma was found (B). A strong cytoplasmic reaction with cytokeratin 7 (C) and cytokeratin 19 (D) was demonstrated.

In addition, the tumor presented a cytoplasmic reaction with alpha-inhibin (Figure 3A), while the Ki-67 proliferation index (2 to 3%) was found to be significantly low (Figure 3B). On the other hand, tumor metastasis which demonstrated a positive reaction with cytokeratin 7 and cytokeratin 19 (Figure 3C) in the celiac lymph node

biopsies was detected. The tumor was found to have a histomorphologically benign appearance and was reported as a serous cystadenocarcinoma based on the desmoplastic stroma and lymph node metastasis.

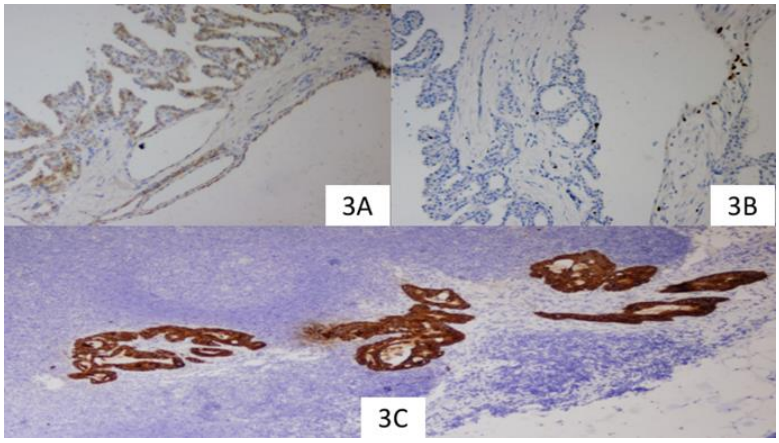

Figure 3. The tumor presented a cytoplasmic reaction with alpha-inhibin (A). While the Ki-67 proliferation index was found to be significantly low (B). In the celiac lymph node biopsies, tumor metastasis was demonstrated a positive reaction with cytokeratin 7 and cytokeratin 19 (C)

Discussion

The prevalence of serous cystadenocarcinomas of the pancreas has been reported as about 3% and has gradually been in the increase with the identification of the first case in 1989 (1). Two factors have been deemed responsible for this increase in the prevalence of cystadenocarcinoma of the pancreas: The first of these is the detection of incidental pancreatic cysts in asymptomatic patients, alongside advances in radiological imaging procedures. The other is the increased awareness of radiologists and clinicians concerning cystadenocarcinomas of the pancreas, which were previously considered benign (2,3).

The current notion is that benign and malignant differentiation of pancreatic cystic neoplasms is a possibility. This differentiation is very difficult, both clinically and histopathologically. Despite the presence of benign histopathological features in the World Health Organization (WHO) classification of 2010, the presence of distant organ or lymph node metastases has been identified as a criterion for malignancy of cystic neoplasm of the pancreas. However, there still remain gaps in the WHO classification. The most importance of these gaps is that cystic neoplasm is not included in the evaluation criteria of invasion to surrounding tissues (4). Comorbidity of cystic neoplasm of the pancreas with liver metastasis, lymph node, and splenic infiltration, splenic venous thrombus or infiltration, gastric, colonic and adrenal neural or stromal infiltration, should suggest that the cystic mass is malignant (5,6). The clinical spectrum of neoplasm of the pancreas is quite diverse. It is often asymptomatic; however, it can incidentally be detected from other complaints. Nevertheless, symptoms may also be observed due to the effect of pressure from the mass. In cases with pancreatic serous cystadenocarcinomas, metastases can be found in the liver at the time of diagnosis or during the follow-up period. As a result, the detection of cystic masses in the liver similar to a pancreatic mass should warrant suspicion for malignancy (7). Our patient was in the symptomatic group of cases with abdominal pain, nausea, and vomiting, as well as weight loss. There was a clinical picture of obstructive jaundice at the time of admission associated with infiltration of the bile duct.

Diagnosis is made through imaging procedures in the light of clinical suspicion. Diagnostic imaging methods include CT, magnetic resonance imaging, endoscopic ultrasonography, and fine needle aspiration biopsy. Definite radiological criteria for malignancy include distant organ metastasis, the absence of a clear separation from the pancreatic parenchyma and invasion of the surrounding tissue. Treatment of cystic neoplasm of the pancreas is by conservative follow-up. However, another group of authors advocates the surgical removal of all types of pancreatic cystic neoplasm, as well as surgery in patients with the criteria for malignancy (8). Infiltration of the surrounding tissue, severe weight loss, and involvement observed on PET/CT has strongly led to the choice of surgical management in our patient. However, in our case, definite diagnosis of malignancy was made together with the detection of lymph node metastasis.

In conclusion, pancreatic serous cystadenocarcinomas are extremely rare tumors. Malignant transformation should be considered in case of complications such as

pancreatitis, bile duct obstruction, and new-onset or increased complaints during follow-up of a benign and conservatively treated serosal cystic neoplasm. Cystic neoplasms of the pancreas can be followed conservatively, provided that there is no invasion of the surrounding tissue, distant organ metastasis, and complications.

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