

Mucinous Cystic Neoplasm of the Pancreas

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● A 29-year-old female was evaluated for a 3-year history of vague lower-left-sided abdominal pain and a sensation of fullness over her bladder. Gynecologic evaluation was performed soon after the symptoms began, and a laparoscopy revealed mild endometriosis. She underwent a nondiagnostic laparoscopy two years later due to persistence of the symptoms. Three months prior to admission, she noted increasing pain in the left lateral abdomen with radiation into the left leg. There was no history of nausea, vomiting, alteration in bowel habits, urinary symptomatology, prior pancreatic/biliary tract disease, or trauma.

Past medical history was remarkable for repair of an atrial septal defect at the age of six. She was otherwise asymptomatic, except for rare episodes of transient supra-

ventricular tachycardia. She was taking no medications and had no allergies. Alcohol consumption was minimal, and there was no family history of pancreatic disease. Physical examination demonstrated an afebrile, healthy-looking female. Abdominal examination revealed a nondistended abdomen with no hepatosplenomegaly and normal bowel sounds. A mobile, nontender 6- to 7-cm mass was palpable in the left midabdomen. Rectal and pelvic examinations were normal.

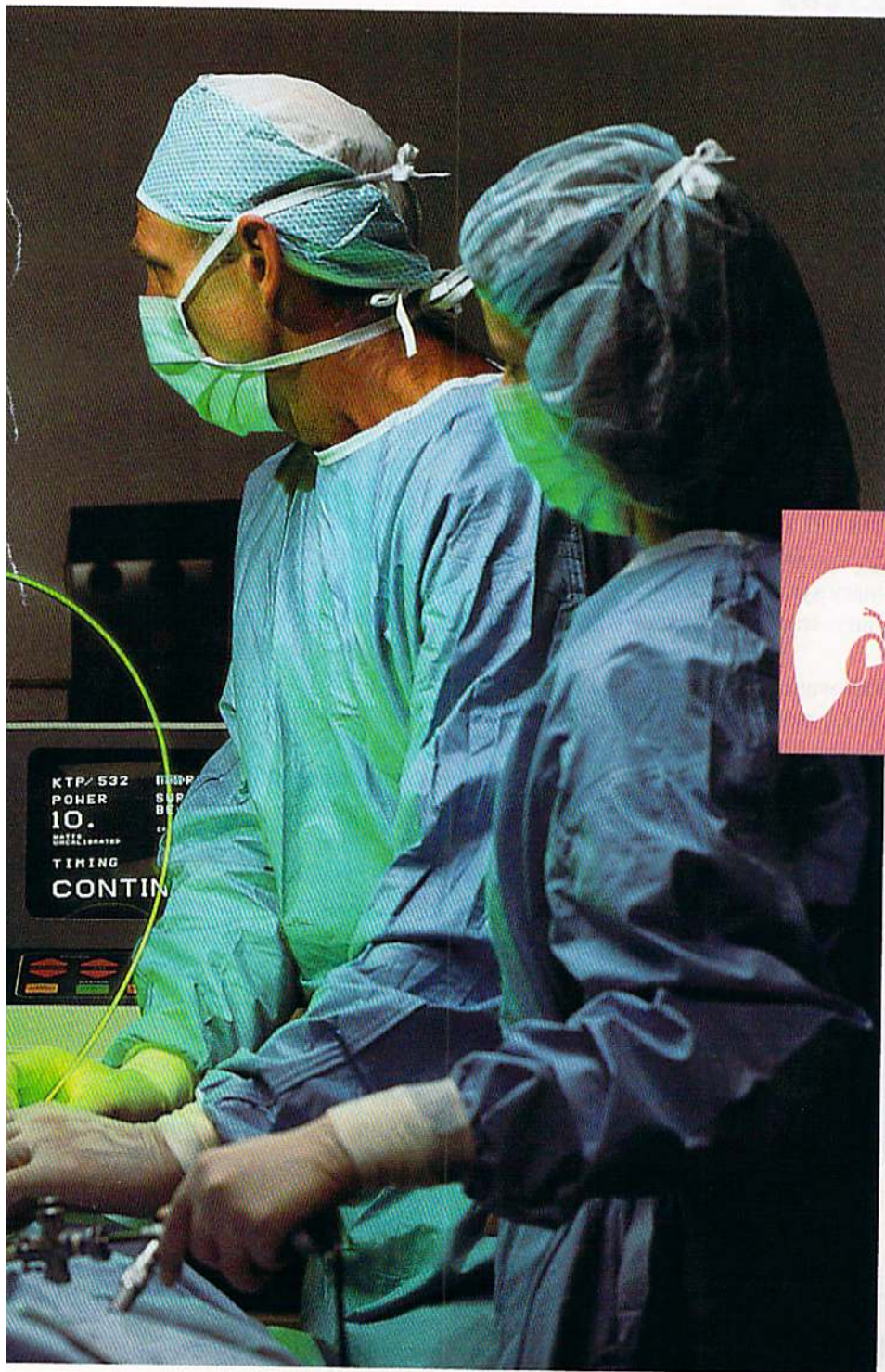
Laboratory evaluation included normal liver function tests, amylase, complete blood count, glucose, and urinalysis. Flexible sigmoidoscopy was normal to 50 cm. An abdominal CT scan (Figure 1) demonstrated a septated cystic mass in the tail of the pancreas.

An exploratory laparotomy was performed through a midline incision. A cystic mass, originating from the distal pancreas (Figure 2), was believed to represent a true cystic pancreatic neoplasm. The mass was 7 cm, multiloculated, and contained straw-colored serous fluid. A distal pancreatectomy was performed, with en bloc excision of the mass and pancreatic tail. The splenic artery and vein were ligated at the level of the proximal pancreatic resection and in the splenic hilum. A portion of both vessels was resected with the specimen. The spleen was preserved via collateral circulation and remained viable at the conclusion of the procedure. The patient had an uneventful recovery. Pathologic examination demonstrated a mucinous cystic neoplasm of the pancreas with indeterminate malignant potential (Figure 3).



Figure 1—CT scan shows a 7-cm, multiloculated cystic mass in the tail of the pancreas. No other abnormalities were noted.

Laparoscopic Cholecystectomy

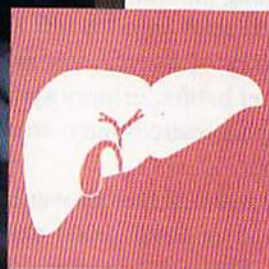


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Points in Pathology

Cystic neoplasms of the pancreas are traditionally classified as serous cystadenoma, mucinous cystadenoma, or cystadenocarcinoma. The malignant potential of pancreatic cystadenoma is poorly understood because there are several reports of cystadenocarcinoma arising from a cystadenoma.¹ Compagno and Oertel described two distinct pathologic types of cystic pancreatic neoplasm: microcystic adenoma and mucinous cystic neoplasia, corresponding to serous and mucinous cystadenoma, respectively.² Microcystic adenoma is a benign neoplasm with no malignant potential. Mucinous cystic neoplasms have indeterminate malignant potential with focal areas of atypia sometimes found in otherwise benign-appearing tumors. Compagno and Oertel believe that the mucinous cystic neoplasm has the potential to differentiate into malignant cystadenocarcinoma. Grossly, microcystic adenoma has a honeycombed appearance, with multiple tiny cysts visible on cross-section. The mucinous cystic neoplasm is unilocular or multilocular and typically contains mucinous material in the cyst cavity, as well as mucin-positive cytoplasm in the cells lining the cyst wall.

The clinical characteristics of pancreatic cystadenomas have been described in several series.³⁻⁵ These lesions tend to occur in females in the fourth to fifth decades of life. The most frequent presenting symptom is vague abdominal pain, but symptoms often are present for many years before the patient seeks clinical attention. Nausea, vomiting, diarrhea, jaundice, and weight loss are less frequent presentations. A palpable mass was present in 60% of patients in one series. Diabetes mellitus or calculous biliary disease has been reported in up to 27% of patients with cystadenomas. Synchronous malignancies also have been anecdotally reported, although no single malignancy has a high frequency of association.⁵

Several radiologic tests may be diag-

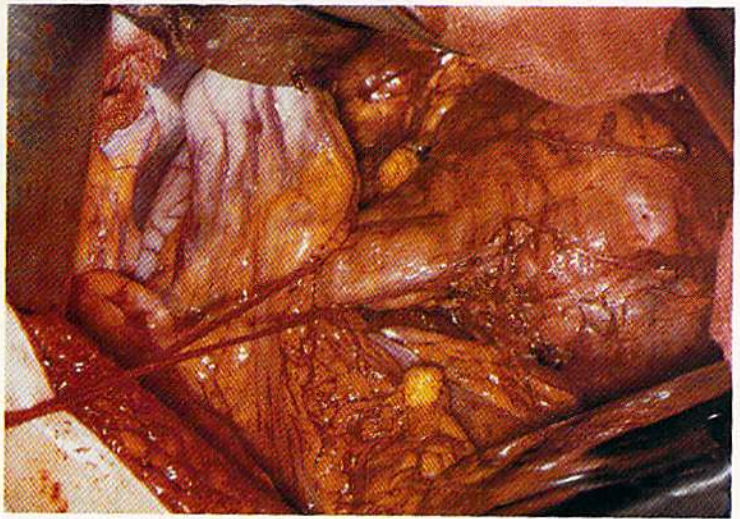


Figure 2—Gross specimen after resection includes the tail of the pancreas and the 7-cm cystic neoplasm.

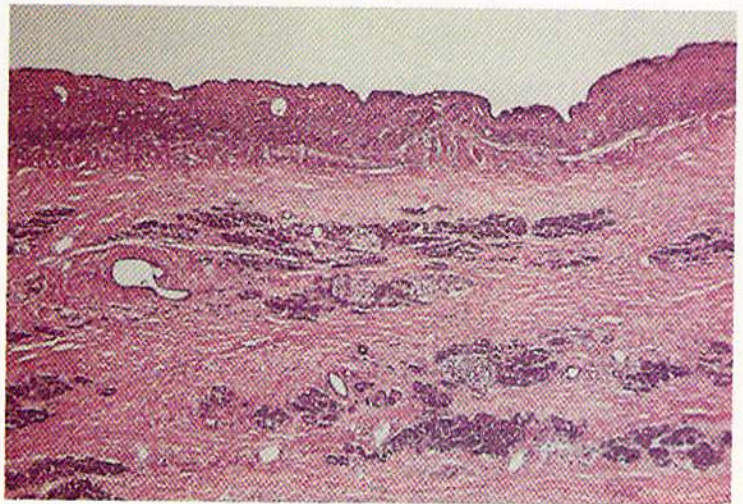


Figure 3—Photomicrographic view of the columnar-lined cyst wall (Top of photograph) with areas of normal pancreatic tissue (Bottom of photograph).

nostic. Starburst calcification is seen on plain abdominal films in approximately 10% of patients.⁶ CT scan allows accurate localization of the mass, and the presence of internal septa may differentiate a cystadenoma from a pseudocyst. Angiography may demonstrate hypervascularity of the cystic mass.⁷

The surgical procedure depends on the location of the tumor. Distal pancreatectomy

my is the procedure of choice for lesions in the body or tail. Splenic preservation is possible in most cases. Lesions in the head of the pancreas require pancreaticoduodenectomy. Cyst-enteric internal drainage and subsequent resection have been suggested for very large cysts, although only rarely should they be necessary. Marsupialization with packing of the cystic cavity has been done in patients unable to tolerate a more extensive procedure. Fortunately, most tumors are located in the tail or body of the pancreas and are amenable to simple resection.

Complete excision should be considered curative. Mortality usually is due to the operative procedure. There are reports of ulceration of microcystic adenomas into the duodenum with gastrointestinal tract bleeding, as well as one case of fatal

hemorrhage into a cyst in the tail of the pancreas.² Biliary obstruction from cystic pancreatic neoplasms also has been reported. ● ●

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All pathology case reports are reviewed by our pathology advisors, William H. Hartmann, M.D., Chief of Pathology, and Andrew C. Burg, M.D., Surgical Pathology Fellow, Department of Pathology, Memorial Medical Center, Long Beach, California.

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