A 55-year-old man was hospitalized for evaluation of cystic lesion at the pancreas tail (Figure 1). The presumed diagnosis of the pancreatic cyst was pseudocyst because it was a unilocular cyst with debris inside, and the patient was a chronic alcoholic with a recent history of acute pancreatitis. Since the patient had no symptom related with the cyst, he was followed up with alternative CT scan and EUS for 15 months, however, the size of the cyst increased gradually. In EUS imaging, a very thick-walled unilocular cyst was observed with a large amount of echogenic material inside (Figure 2). There was no mural nodule inside the cyst and no communication between the cyst and the pancreatic duct. The main pancreatic duct showed normal caliber. Serum CA 19-9, amylase, and lipase levels were within the normal limits.

After hospitalization, we performed EUS-guided fine needle aspiration and aspirated approximately 10 mL of chocolate colored cystic fluid. No neoplastic cells were seen on microscopy. EUS-guided cyst draining was tried in suspicion of pseudocyst, however, fistula dilation failed due to thickened wall of the cyst. Since the patient complained of severe abdominal pain during fistula dilation, the procedure was discontinued and surgical resection was planned. Laparoscopic distal pancreatectomy was performed, and fresh blood was seen on the puncture site (Figure 4). Postoperative pathologic examination confirmed pancreatic neuroendocrine tumor (PNET), G1 with cystic degeneration of more than 95% (Figure 5).

**DISCUSSION**

PNETs typically appear as solid tumors on imaging and most are hyper-attenuated on arterial phase dynamic CT scan because of hypervascularity of the tumor. However, the PNET in this case showed massive cystic degeneration, which led to misdiagnosis as a pseudocyst and EUS-guided drainage was attempted. Peripheral contrast enhancement on CT can be helpful in the diagnosis of PNET with cystic degeneration, and when we retrospectively reviewed the CT scan, the peripheral contrast enhancement was suspicious in this case. However, the possibility of pseudocyst was higher at that time due to the recent history of alcohol abuse and pancreatitis.

Although imaging modalities have rapidly developed, the current diagnostic capabilities of differentiating pancreatic cyst are still limited. The most aggressive cystic lesions of the pancreas are typically secondary pancreatic cysts that are frankly malignant, such as pancreatic ductal adenocarcinoma and PNET. It should be kept in mind that the possibility of cystic change of solid tumors in differential diagnosis of the pancreatic cyst.
FIGURE 1  Abdominal CT scan shows unilocular cystic lesion at the pancreas tail. The largest diameter was 53 mm.

FIGURE 2  EUS shows a very thick-walled unilocular cyst with a large amount of echogenic material.

FIGURE 3  Fresh blood that was flowing from the puncture site (yellow arrow) was seen during laparoscopic distal pancreatectomy.
FIGURE 4  Gross specimen of resected cystic lesion.

FIGURE 5  Microscopic images of resected cystic lesion shows solid nesting pattern accompanied with huge necrosis. Immunohistochemical staining was positive for synaptophysin.

REFERENCES
