

Figure 19-7 Pancreatic pseudocyst. **A**, Cross-section revealing a poorly defined cyst with a necrotic brown-black wall. **B**, The cyst lacks a true epithelial lining and instead is lined by fibrin and granulation tissue.

MORPHOLOGY

Pseudocysts are usually solitary and may be situated within the pancreas, or, more commonly, in the lesser omental sac or in the retroperitoneum between the stomach and transverse colon or between the stomach and liver. They can even be subdiaphragmatic (Fig. 19-7A). Pseudocysts are formed when areas of intrapancreatic or peripancreatic hemorrhagic fat necrosis are walled off by fibrous tissue and granulation tissue (Fig. 19-7B). They range in size from 2 to 30 cm in diameter.

While many pseudocysts spontaneously resolve, they may become secondarily infected, and larger pseudocysts may compress or even perforate into adjacent structures.

Neoplasms

A broad spectrum of exocrine neoplasms arises in the pancreas. Such neoplasms may be cystic or solid; some are benign, while others are among the most lethal of all malignancies. Neuroendocrine tumors also occur in the pancreas and are discussed in Chapter 24.

Cystic Neoplasms

Cystic neoplasms are diverse tumors that range from harmless benign cysts to lesions that may be precursors

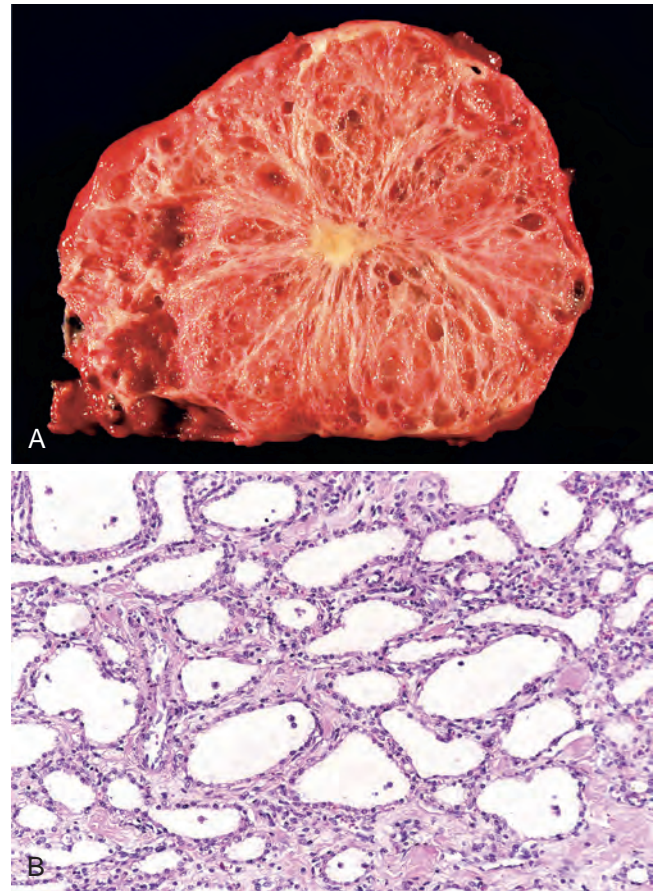


Figure 19-8 Serous cystic neoplasm (serous cystadenoma). **A**, Cross-section through a serous cystic neoplasm. Only a thin rim of normal pancreatic parenchyma remains. The cysts are relatively small and contain clear, straw-colored fluid. **B**, The cysts are lined by cuboidal epithelium without atypia.

to invasive, potentially lethal, cancers. Only 5% to 15% of all pancreatic cysts are neoplastic (most are pseudocysts; see the previous section), and cystic neoplasms make up fewer than 5% of all pancreatic neoplasms. Serous cystic neoplasms are entirely benign, whereas others, such as intraductal papillary mucinous neoplasms and mucinous cystic neoplasms, are precancerous. Recent whole-exome sequencing has identified genetic alterations specific for each type of cystic neoplasm.

Serous cystic neoplasms are multicystic neoplasms that usually occur in the tail of the pancreas. The cysts are small (1 to 3 mm), lined by glycogen-rich cuboidal cells, and contain clear, thin, straw-colored fluid (Fig. 19-8). They account for about 25% of all cystic neoplasms of the pancreas. These neoplasms arise twice as often in women as in men and typically present in the sixth to seventh decade of life with nonspecific symptoms such as abdominal pain. Many are now being detected incidentally during imaging for another indication. Serous cystic neoplasms, called serous cystadenomas, are almost always benign and, if small, can be safely observed. Surgical resection is curative in the vast majority of patients. Inactivation of the *VHL* tumor suppressor gene is the most common genetic abnormality in serous cystic neoplasms.

Close to 95% of *mucinous cystic neoplasms* arise in women, and, in contrast to serous cystic neoplasms, they