Cystic lesions of the pancreas are increasingly diagnosed with a reported prevalence of 10 % in 70-year-old individuals. Despite their broad spectrum, most resected cystic lesions can be attributed to one of the following entities: intraductal papillary mucinous neoplasms (IPMN), mucinous cystic neoplasms (MCN), serous cystic neoplasms (SCN), neuroendocrine cystic tumors (NECT), and solid pseudopapillary neoplasms (SPN). Among them, IPMN and MCN represent precursors of ductal adenocarcinoma, NECT and SPN are low-grade, potentially malignant lesions, and SCN are usually benign. Due to the not negligible morbidity and mortality rates in pancreatic surgery, even in highly specialized centers, an interdisciplinary preoperative stratification of pancreatic cystic lesions into high- and low-risk tumors is necessary in order to accurately select those cases that need to undergo immediate resection. The role of the pathologist is fundamental in both the preoperative assessment and in the postoperative classification, which determines prognosis, further treatment, and follow-up.