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Authors:
Carlos Fernández del Castillo

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Safe surgery for cystic tumors of the pancreas

Carlos Fernández-del-Castillo


Less than two generations ago, pancreatic surgery was risky business. Surgical mortality, even in some of the best institutions in the world, was about 25%. Complications were very common and not infrequently patients required reoperations and had to remain in the hospital for weeks or even months. They emerged from this highly debilitated, and often went on to have a very poor quality of life. Not surprisingly, for these reasons, pancreatic resection was used only as a “last resort”, and mostly for cancer.

Fifty years later things are very different. Although resection of the pancreas is still considered as a major operation that can be associated with significant morbidity, the risk of dying from these operations has been markedly reduced and mortality in specialized centers is commonly below 2%. This improvement is in part the result of overall advances in medicine and, in particular, the development of computerized tomography and magnetic resonance imaging, as well as the emergence of interventional radiology and endoscopic ultrasound, have been key components of this progress. Gradually, more patients with pancreatic tumors were identified and taken to surgery, and this increasing volume helped surgeons to gain experience not only in doing operations, but also in managing surgical complications, which in turn decreased mortality. Indeed, there are many studies that have shown a striking correlation between surgical volume in pancreatic resections and decreased mortality, and make a case that these operations should be done preferentially in specialized centers (1).

In this issue of *The Spanish Journal of Gastroenterology (Revista Española de Enfermedades Digestivas)*, the group from Clínica Universidad de Navarra report on a large series of cystic tumors of the pancreas (2). These were tumors that in the past were rarely operated on, but
now represent a common indication for pancreatic surgery (in their case, 21%). Gastroenterologists and gastrointestinal surgeons from all over the world are seeing increasing numbers of pancreatic cysts. In the past, it was felt that most cysts in the pancreas were pseudocysts. This is clearly not the current situation, since most of the cysts seen by clinicians have been incidentally discovered and likely represent neoplasms (pseudocysts follow a well-defined episode of pancreatitis, which should be obvious in the patient’s history, or occur in the setting of chronic pancreatitis or trauma). The differential diagnosis of pancreatic cystic neoplasms encompasses more than a dozen pathologic entities and cannot always be made with precision (3). The clinician taking care of these patients, however, needs to discern which cysts have potential to be or become malignant and which ones do not, and if further studies are needed to determine this. This is not an easy dilemma; of course, we all want to prevent pancreatic cancer, but at the same time pancreatic resections have immediate and distant consequences. There are several guidelines that help in this regard, including the one from the International Association of Pancreatolology and the recent one from the European Study Group (4,5). Needless to say, the majority of these incidentally-discovered pancreatic cysts will never require surgery.

The experience of the University of Navarra mimics that of other referral centers and, as expected, a majority of the cystic tumors of the pancreas that were resected were intraductal papillary mucinous neoplasms (IPMN), mucinous cystic neoplasms, and serous cystadenomas, which together comprise about 90% of resected tumors (6). Their series also includes some of the less common pancreatic cystic neoplasms, such as cystic neuroendocrine tumors and the solid pseudopapillary neoplasm. While only about 20% of the tumors were invasive, many of the rest were pre-malignant, and surgery accomplished the goal of preventing progression in most cases. It is important to highlight that half of the tumors in this series were incidentally discovered, yet one in six (17%) of these was an invasive tumor, a proportion that was not significantly different than that found in symptomatic patients (22%).

The authors are to be commended for their outstanding results. Postoperative mortality was zero, only 7% of patients experienced severe complications and, remarkably, there were no 30-day readmissions. The latter is an important metric, which at least in the United States, where
there has been a push to decrease length of stay, oscillates between 15% and 22% in most series (7). Their experience spans over 20 years, and shows innovation that has occurred in the field of pancreatic surgery, such as performance of central pancreatectomies, preservation of the spleen, and laparoscopic procedures. In fact, 40 of the 82 cases in the series were done with a laparoscopic approach, and in nearly two-thirds of distal pancreatectomies the spleen was preserved.

As our knowledge of cystic tumors of the pancreas increases, we will take better care of these patients. We now know that some of them, like serous cystadenomas, rarely need an operation, and for that reason we strive to make more precise preoperative diagnoses using endoscopic ultrasound with fine-needle aspiration and biopsies, but this is still imperfect. We also know that most IPMNs have a very benign course and may never need surgery, although our understanding of their natural history is still evolving (7). I can envision that 20 years from now the Clínica Universidad de Navarra will again report on cystic tumors of the pancreas. For sure, the surgical outcomes will be as outstanding as the ones shown here, but the distribution of cases will likely be different.

REFERENCES

