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Duodeno-Pancreatic Preservation in a Big Tumor of the Uncinate Process: A Tactic in Patients Previously Submitted to Total Colectomy

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Abstract

The possibility of preserving the duodenum and pancreas in the uncinate process neoplasms is, in general, reserved to less aggressive tumors. The literature describes this type of surgery for intraductal papillary mucinous neoplasms (IPMNs), or for cystic tumors.

Keywords: Duodenum; Pancreas; Pseudo papillary tumor; Pancreatic head

Introduction

The possibility of preserving the duodenum and pancreas in the uncinate process neoplasms is, in general, reserved to less aggressive tumors. The literature describes this type of surgery for intraductal papillary mucinous neoplasms (IPMNs), or for cystic tumors [1-3]. The Frantz neoplasm is a pseudo papillary tumor, more common in women, with an incidence of 1/3,200,000. Its behavior is, in general benign, except in cases where the diagnosis is done too late.

In patients who had previously undergone a subtotal colectomy, the removal of the pancreatic head would cause severe metabolic and nutritional consequences and probably a chronic and with difficult control diarrhea. In those cases the duodenal preservation is always preferable.

Case Report

A 45 year-old woman presented with epigastric pain for three months and no other symptoms. She underwent 15 years before a subtotal colectomy with ileo-rectal anastomosis due to degenerated colonic polyposis. The physical examination did not show abnormalities and the magnetic resonance imaging (MRI) revealed a big solid mass in the uncinate process, apparently preserving the Wirsung duct (Figure 1).

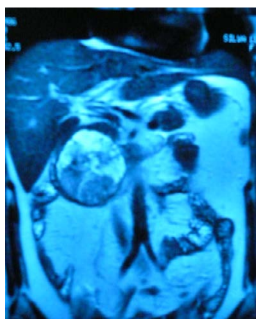

Figure 1: MRI revealing the tumor in the uncinate process.

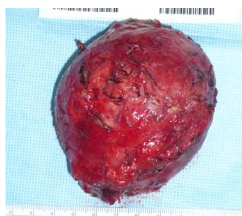

Figure 2: Specimen in the uncinate process.

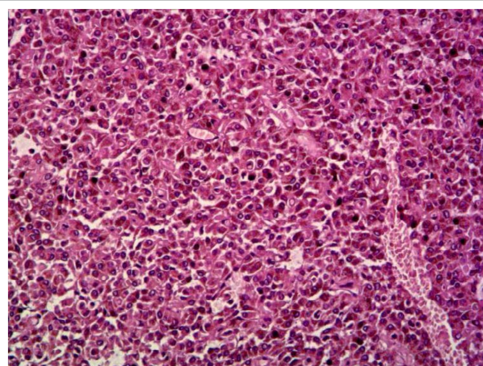

Figure 3: Pseudopapillae with hyalinized fibrovascular cores lined by several layers of epithelial cells with clear to eosinophilic cytoplasm and round/oval nuclei, finely stippled chromatin, nuclear grooves, indistinct nucleoli.

The resection of the pancreatic head and its impact in the quality of life (QoL) were exhaustively discussed with the patient who agreed with the surgery, but asked, if possible, to a less aggressive procedure. The access was done through a large bi subcostal incision, immediately followed by a cholecystectomy with a cholangiography to evaluate the common bile duct and, if possible the Wirsung duct. The macroscopic aspect indicated that it was a solid cystic tumor, allowing the team to perform a surgery with small margins. It was finally possible to excise only the mass and the uncinate process (Figure 2). The microscopic aspects are seen in Figures 3 and 4. A new cholangiography showed the integrity of the Wirsung duct. The postoperative period was uneventful and the patient is asymptomatic with 9 years of follow-up.

Discussion

The pancreatic head resection in patients previously submitted to total or subtotal colectomy, induces diarrhea extremely difficult to handle with bad QoL. In those cases, when possible, the pancreatic preservation should be attempted, obviously without compromising the oncologic results.

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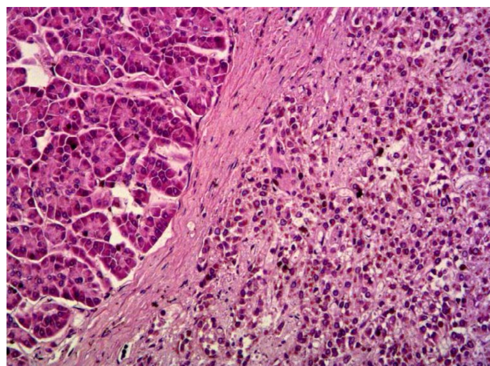

Figure 4: Frantz tumor - Tumor and normal pancreas separated by a capsule.

The solid cystic neoplasms-Frantz tumors-have a biological behavior not completely understood. It is more frequent in women and located in the body and pancreatic tail. Less than 30% are located in the pancreatic head and exceptionally in the uncinate process. Although it sometimes surpasses the organ limits, the vascular and adjacent organs invasion is very rare. Its behavior is benign except in the cases where the diagnosis is done too late and sometimes mistakenly and repeatedly treated as pseudocysts.

There are correlations between colonic polyposis and pancreatic malignant or benign neoplasms, nevertheless we did not find specific interconnection with the Frantz tumor [4]. In our report those two conditions were present: the patient had undergone a subtotal colectomy with ileo rectal anastomosis and in the case a pancreatectomy would be needed it would lead to severe nutritional and metabolic disorders. The appropriate treatment is still controversial with more or less extensive resections [5-14]. Considering the fact that 90% of the cystic pancreatic tumors are not invasive, they can be treated with more limited surgery, rather than extended pancreatectomies [15,16]. The importance of duodenal preservation in pancreatic surgery is that pancreatic enzyme secretion and endocrine function are not reduced after the procedure [17]. It is extremely important to exclude invasive tumors, which need to be treated in a radical way. Free margin resections without lymph node dissection are accepted from oncologic point of view, on the other hand, sometimes is difficult to have previously the histopathological results of the Frantz tumors. In those cases we give importance to the clinical and radiologic findings such as female gender and distinct margins in the CT scan or MRI [16].

Although the main surgical approach for pancreatic head tumors has been pancreaticoduodenectomy [18], the duodenum preserving pancreatectomies are being used more frequently for cystic neoplasms of the pancreatic head [19] and should be considered for they maintain the duodenum in the digestive transit, avoiding nutritional problems [3]. This is, however, a complex operation, due to the difficulties to preserve the duodenal vascularization, as well as the risk of intra and post-operative bleeding and fistulae [1,2,20]. Enucleation is being progressively accepted, especially in the small (less than 3 cm) tumors. The comparison of 30 limited resections with 79 major pancreatectomies did not find statistical differences regarding mortality or fistulae, but it was noted a significant diminution in the morbidity, with better QoL and better functional results in the preservation group [21,22].

In spite of technical difficulties the partial resections should be attempted with extreme attention given to exclude malignancies [18]. In the present case there were strong evidences supporting the diagnosis of a solid cystic tumor, so the organ sparing surgery seemed more advisable, preserving almost entirely the pancreas and preserving the duodenum. Other important aspects during the surgery were: frozen section biopsies to confirm the absence of malignancy and the cholangiography to confirm that the Wirsung duct was not harmed.

We conclude that in patients previously submitted to total colectomy, the pancreatic head preservation is advisable in benign pancreatic head tumor.

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