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Solid pancreatic pseudopapillary tumor managed laparoscopically: A case report and review of the literature

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ABSTRACT

BACKGROUND: Solid pancreatic pseudopapillary tumors are a rare neoplasms, about 1–3% of all pancreatic neoplasms. This cancer mainly affects women between the third and fourth decade of life.

They are not well known; the molecular origins represent a low degree of malignancy, in which the complete resection is curative. We report our experience with a case report of SPT in a young man.

PRESENTATION OF CASE: Thirty-six years old male patient with a mass about 10 cm in the pancreatic tail and splenic ilum. After following CT and MR, the patient was subjected to surgery. Histophatological result was solid tumor pseudopapillary of pancreas with no pathological lymph nodes.

DISCUSSION AND CONCLUSION: Solid pseudopapillary neoplasm shows histological characteristic solid and pseudopapillary proliferation. Immunohistochemistry detects, among the causes of tumor development, a correlation between the Beta-catenin mutations, alteration of the E-cadherin. In the most cases, therapy is surgical treatment with laparoscopic.

1. Introduction

Solid pseudopapillary neoplasm of pancreas is a rare tumor, making up only 1%–3% of neoplasm of pancreas and his cells are characterized by poorly cohesive uniform cells solid and pseudopapillary growth pattern [1–3].

This tumor was first described in 1959 by Virginia Frantz as "papillary cystic tumor of the pancreas". The patient was a 2 years old boy undergone to pacreatic-duodenectomy [4]. Only in 1970 Hamoudi et al. described the ultrastructural features of the tumor as separate clinicopathological entity [5]. In 1996 its inclusion in the World Health Organization (WHO) classification as "solid pseudopapillary tumor" of the pancreas. The tumor has been given by different names but all to same histogenesis: solid and cystic tumor of the pancreas, papillary epithelial neoplasmos pancreas, papillary-cystic tumor adenocarcinoma of pancreas of childhood", and solid and papillary epithelial neoplasm [6].

The origin of this neoplasm is not well known but it has been postulates that this tumor maya rise from pluripotent embryonic cells of the pancreas or from the ridge ovarian analog-related cells, which were attached to the pancreatic tissue during early embryogenesis [7].

Untill today about 700 case has been described, more the two-thirds of them in the last years [9]. Probably this increase is due to better awareness clinicopathologic and radiographic features of solid pesudopapillary neoplasm associated to uniformity of the nomenclature. The source of the cells of SPT and tumorigenesis is still unknown. They usually affect young women with a female:male ratio of 10:1, between the third and the fourth decade of life. However, sporadic rare cases in men and in the elderly have also been reported [8]. This case report was conducted, and is reported in accordance with the SCARE criteria [15].

2. Case description

A 36-years-old man reported history of upper abdominal pain for about 4 months, associated to decrease appetite and weight loss. He had no comorbidy. All blood test and tumor markers were normal (CEA, Ca19.9, NSE, Cromogranina A). He performed an ultrasound examination showed bright liver; the gallbladder thick-walled appeared normal with evidence an endoluminal stone formation about 9 mm. Pancreatic morphology and echostructure was preserved. Wirsung was not dilated. Furthermore, the exam showed, in perisplenic a voluminous mass of 7.7 × 6.6 cm, heterogeneously hypoechoic with microcalcifications and irregular contours (Fig. 1a and b) Computerized tomography showed massive solid neoformation, next to splenic hilum, which incorporated the pancreatic tail and the splenic hilum, likely attributable swelling confluent lymph nodes. (Fig. 2a and b). The pancreatic tail was poorly defined, while morphology and density of the remaining parenchyma was normal. Preoperative MRI viewed between

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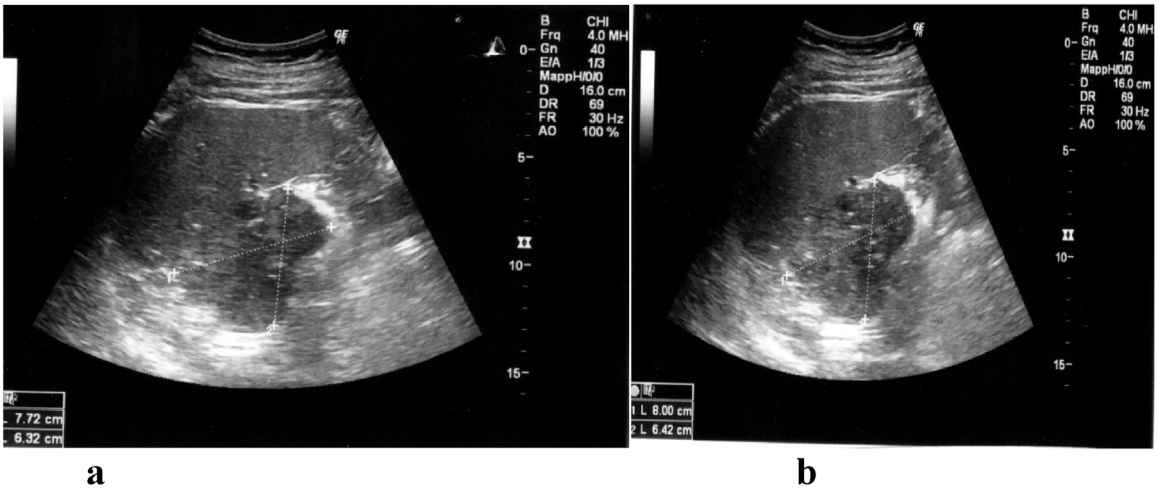

Fig. 1. a and b: US show an irregular and inhomogeneously hypoechoic mass with some calcifications inside.

pancreatic tail and spleen, an inhomogeneous formation of about 6.6 × 5.7 × 6.5 cm. This mass showed hyperintense signal on T2 W sequence (Fig. 3a and b), hypointense signal on T1W and progressive contrast enhancement (Fig. 4a and b), with some calcifications and colliquative areas. The tumor seemed poorly separable from medial profile of the spleen, the pancreatic tail, and from the splenic artery and vein and also compressed the ipsilateral kidney and adrenal gland. MRI concluded for an uncertain nature of the mass between lymph nodal mass or pancreatic tail tumor.

So we decide to perform laparoscopic approach as the first diagnostic and therapeutic act. It showed, on the retrocavity of omentum, a neoformation next to the splenic hilum, to about 10 cm in diameter that displaced the splenic vessels and infiltrated the tail of the pancreas. Then we run multiple biopsies and extemporaneous histological examination revealed epithelial neoplasm. Therefore we decided to proceed with a distal splenopancreasectomy.

2.1. Surgical technique

We performed a pneumoperitoneum open Veres-assisted. A 12-mm trocar was used 1 cm above the umbilicus to accommodate the standard 10-mm 30° laparoscope (T1). Two trocars, a 10-mm trocar was used at the left side in the left midclavicular line (T2), while a 5-mm trocar at right side (T3). An additional 5-mm trocars were used below xiphoid (T4) (Fig. 5). Gastro-colic ligament section and retrocavity of omentum access. Mobilised the splenic flexure of the colon and dissected the gastro-splenic ligament leads to the adrenal slot where the tumor appears no infiltrate the ipsilateral adrenal gland. Then we isolated the splenic artery to the upper margin of the pancreas and we dissected it between titanium clips. Isolation and section of the splenic vein between titanium clips. The next step was to pass under the pancreas and to dissect in disease-free area with Echelon Flex gold clad Seamguard. It then proceeded to dissect short gastric vessels and to mobilize the spleen from adhesions with the diaphragm on top, with the adrenal gland and the lower floor muscle infero- laterally, thus completing spleno distal pancreasectomy.

2.2. Histological examination

Macroscopic histological examination showed a mass of 8 × 6, 5 × 6 cm localized at the splenic hilum and in continuity with the pancreas, with immobilized congested vessels. To cut the neoplasm seemed very hard with some brittle portions and greyish color. Also the mass seemed to invade the splenic parenchyma. None of the 7 lymph nodes removed were malignant.

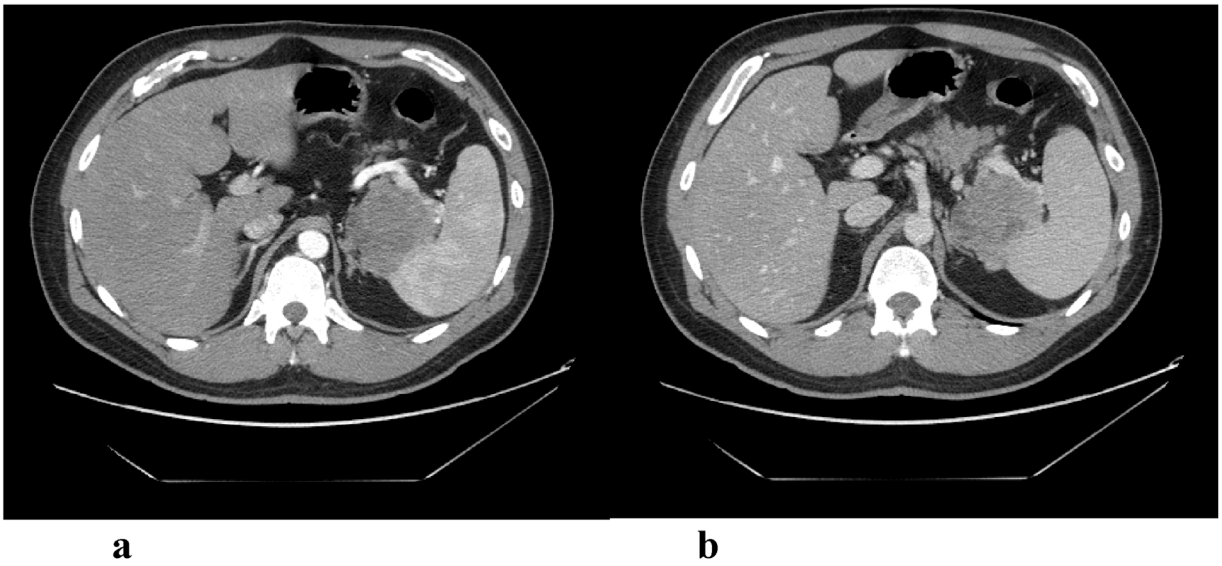

Fig. 2. a and b: CT with contrast enhancement during portal phase show a voluminous mass next to splenic hilum with splenic vein infiltration.