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SPLEUNCULUS. **A MISDIAGNOSED PANCREATIC TUMOR**

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Abstract

An intrapancreatic accessory spleen, often referred to as a *splenunculus*, can imitate neuroendocrine or lobular pancreatic cancer. 17% of accessory spleens are found within the pancreatic tail. We report the case of a *splenunculus* found within the tail of the pancreas during a laparoscopy for a suspected pancreatic neuroendocrine tumor.

Key words: *splenunculus*, intrapancreatic accessory spleen, pancreatic neuroendocrine tumor

Introduction

A tumor found in the pancreas during imaging studies mandates further diagnostic procedures. The distinction between malignant and benign nature of such pathology is important since resection of the pancreas can cause serious complications during postoperative period. In this paper we present a diagnostic and therapeutic procedures in a patient with a pancreatic tumor of unclear nature.

Case description

Recently a 69-year-old Caucasian male was diagnosed with prostate cancer and referred for surgery. During preoperative staging a suspicious tumor within the pancreatic tail was noted. A 20 mm tumor seen on the CT scan (Figure 1) had the characteristics of a PNET pancreatic tumor. The lesion was deemed operable and a laparoscopic resection of the pancreatic tail before prostatectomy was proposed. Laboratory tests including CA 19-9 and CEA markers were within the normal limits. During laparoscopic surgery conversion to an open procedure was deemed necessary due to the difficulties in locating the tumor. After performing the laparotomy, an extensive ultrasound of the pancreas failed to show any tumor inside the pancreatic tissue but revealed a 20 mm tumor in the splenic hilum pressing the pancreatic tail from behind. The tumor was excised respecting the integrity of the pancreas and the vascularity of the spleen. The postoperative course was uneventful and the patient was discharged on the fifth postoperative day. The diagnosis in the pathology report was that the tumor had the features of a normal spleen, thus ultimately the diagnosis of a *splenunculus* was made.

An intra- and peripancreatic accessory spleen is considered to be a rare anomaly and a rare type of pancreatic tumor [1,2]. In general, an accessory spleen can be found in around 10% of autopsies, with 17% of cases found within the pancreatic tail [3]. The diagnosis of an intrapancreatic accessory spleen is difficult as it shows the radiologic features of a hypovascularized pancreatic tumor (e.g. neuroendocrine tumors and lobular pancreatic cancers) [4]. In radiology imaging it is usually seen as a small, round structure with a spleen-like density [5]. To differentiate a *splenunculus* from a pancreatic neuroendocrine tumor a CT scan, MRI scan, scintigraphy as well as ultrasound can be helpful. However, when a *splenunculus* is present, as many as 30% of imaging tests can yield a false positive for neuroendocrine tumors [6]. This can lead to unnecessary surgical intervention [7]. The tumor's being located in the pancreatic tail is considered an indication for a laparoscopic approach [8], but as seen in our case it can prove difficult. In many cases a *splenunculus* can only be diagnosed on the basis of a pathology report concerning a resected pancreas [9,10]. In this case, pancreatic resection was not required as the tumor was pushing the

pancreas from the outside, simulating an intrapancreatic tumor, while during surgery it could be resected from pancreatic tissue. The correct preoperative diagnosis of a *splenunculus* saves the patient from unnecessary surgery as the lesion does not require any form of treatment. Usually, only periodic imaging studies are suggested as a follow-up measure [11].

Conclusion

When diagnosing a small, hypovascularized tumor within the pancreatic tail the possibility of a *splenunculus* should be born in mind. A misdiagnosis can lead to an unnecessary surgery with its inherent complications.

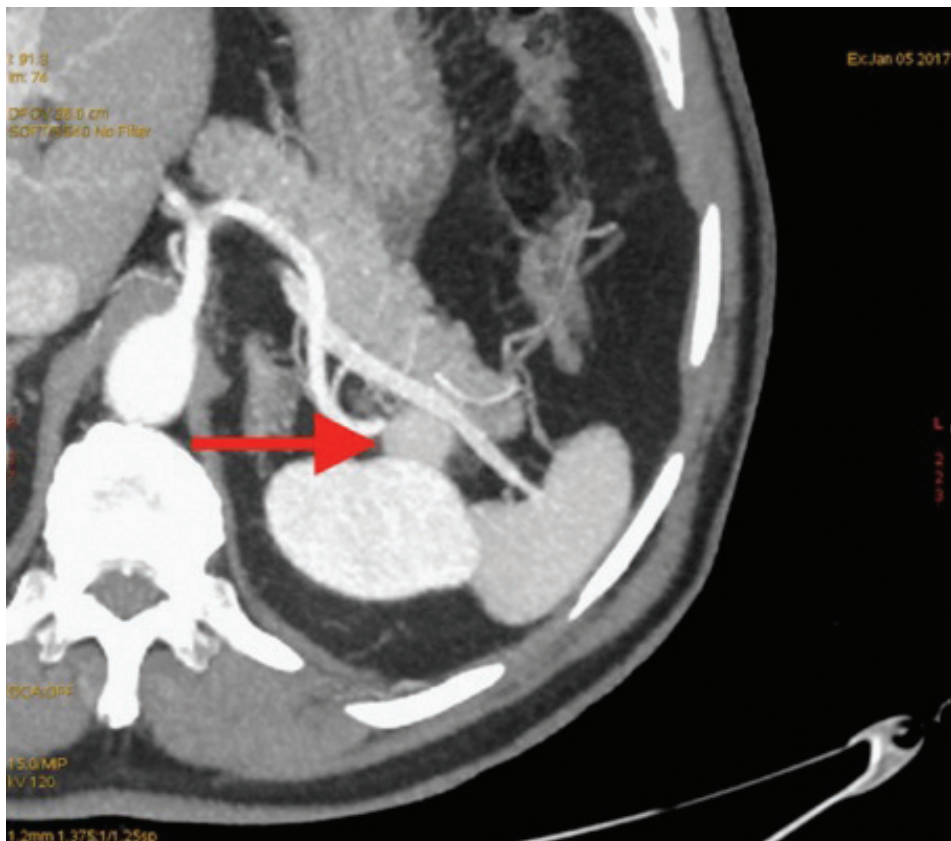


Figure 1. The pancreatic tail tumor is marked with an arrow. Photo courtesy: Department of Radiology, Maria Skłodowska-Curie National Research Institute of Oncology, Kraków Branch.

References

1. Duncan CB, Riall CS. *Unusual Pancreatic Tumours* [In:] Cameron JL, Cameron AM. *Current Surgical Therapy*. 11th ed. Elsevier Saunders, Philadelphia [cop. 2014]; 492–501.
2. Zhu HX, Lou WH, Kuang TT, Wang DS. *Post-splenectomy intrapancreatic accessory spleen mimicking endocrine tumor of the pancreas*. *Int J Surg Cae Rep*. 2014; 5(12): 1151–1153.
3. Halpert B, Gyorkey F. *Lesions observed in accessory spleens of 311 patents*. *Am J Clin Pathol*. 1959; 32(2): 165–168.
4. Ota T, Ono S. *Intrapancreatic accessory spleen: diagnosis using contrast enhanced ultrasound*. *Br J Radiol*. 2004; 77(914): 148–149.
5. Churei H, Inoue H, Nakajo M. *Intrapancreatic accessory spleen: case report*. *Abdom Imaging*. 1998; 23(2): 191–193.
6. Brasca LE, Zanello A, De Gaspari A, De Cobelli F, Zerbi A, Fazio F, Del Maschio A. *Intrapancreatic accessory spleen mimicking a neuroendocrine tumor: magnetic resonance findings and possible diagnostic role of different nuclear medicine test*. *Eur Radiol*. 2004; 14(7): 1322–1323.
7. Ota T, Tei M, Yoshioka A, Mizuno M, Watanabe S, Seki M, Nakata H, Yamamoto I, Morita R. *Intrapancreatic accessory spleen diagnosed by technetium-99m heat-damaged red blood cell SPECT*. *J Nucl Med*. 1997; 38(3): 494–495.
8. Komorowski AL, Mituś JW, Wysocki WM, Bała MM. *Laparoscopic and open liver resection – a literature review with meta-analysis*. *Arch Med Sci*. 2017; 13(3): 525–532.
9. Kurmann A, Michel JM, Stauffer E, Egger B. *Intrapancreatic accessory spleen misdiagnosed as a nonsecreting endocrine tumor: case report and review of literature*. *Case Rep Gastroenterol*. 2010; 4(2): 210–214.
10. Guo W, Han W, Liu J, Jin L, Li JS, Zhang ZT, Wang Y. *Intrapancreatic accessory spleen. A case report and review of literature*. *World J Gastroenterol*. 2009; 15(9): 1141–1143.
11. Zeman M, Zembala-Nożyńska E, Sczasny J, Strączyński M, Widel M. *Intrapancreatic accessory spleen imitating a pancreatic neoplasm*. *Pol. Przegl Chir*. 2011; 83(10): 568–570.

Splenunculus. Błędne rozpoznanie guza trzustki

Streszczenie

Wewnątrztrzustkowa śledziona dodatkowa jest wczesną anomalią rozwojową, która może naśladować neuroendokryne lub zrazikowe nowotwory trzustki. W 17% przypadków występuje w ogonie trzustki i jest często określana jako *splenunculus*. W pracy zaprezentowano przypadek chorego, u którego podczas operacji laparoskopowej z powodu podejrzenia guza neuroendokrynnego trzustki stwierdzono wewnątrztrzustkową śledzionę dodatkową umiejscowioną w ogonie tego narządu.

Słowa kluczowe: *splenunculus*, wewnątrztrzustkowa śledziona dodatkowa, guzy neuroendokryne trzustki