Radiology Case Reports 18 (2023) 2850–2853

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journal homepage: www.elsevier.com/locate/radcr

Case Report

A case report: Serous cystadenoma in the pancreas turned malignant ☆

Thomas Mørch-Jessen, MD, Shefali A. Chatterjee, MD*

Department of Radiology, Hvidovre Hospital, Kettegård Alle 30, 2650 Hvidovre, Denmark

ARTICLE INFO

Article history:
Received 11 March 2023
Revised 5 May 2023
Accepted 12 May 2023
Available online 9 June 2023

Keywords:
Serous cystadenoma
Pancreas
Malignant transformation
Tumor
Computed tomography
Pancreatic cysts

ABSTRACT

Serous cystadenomas represent 16% of pancreatic serous neoplasms. It can be subdivided into 4 variants: polycystic, oligocystic, honeycomb and solid. Such tumors rarely turn malignant. Most are asymptomatic at the time of diagnosis, but symptomatic patients mainly suffer from abdominal pain and pancreaticobiliary symptoms. Due to the usually benign status, no follow-up or surgery is usually required. This case report concerns a histologically proven serous cystadenoma in an 84-year elderly woman. Due to benign status, no follow-up was required. Thirteen years later she was diagnosed with malignant transformation on computed tomography.

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Introduction

Cystic lesions of the pancreas have 2.6 % and 19.6 % prevalence [1]. A retrospective review found serous cystadenomas (SCAs) to represent 16% of pancreatic cystic neoplasms [2]. It is typically found in women (74%) with a mean age of 58. About 40% of the time SCA is in the head, the remaining 34% in the body, and 26% in the tail of the pancreas [3].

Former studies show that 61% of patients with SCA are asymptomatic at the time of diagnosis [3]. However, symptoms can develop due to enlargement of the cyst and pressure on nearby organs [4]. Symptomatic patients can suffer from abdominal pain (27%), pancreaticobiliary symptoms (9%), and diabetes mellitus (5%). Abdominal mass, nausea, vomiting, and weakness have also been reported [3].

It is rare for SCA to turn malignant [3]. However, CT attenuation is not a reliable method to distinguish pancreatic serous cystadenomas from adenocarcinoma due to an overlap in the attenuation and the heterogeneity of SCA [5].

Locally aggressive SCAs have previously been cytologically and histologically examined, proving similar traits as SCAs [1]. Furthermore, cytopathologic diagnosis of SCAs through fine needle aspiration (FNA) has proven to be difficult. Only 20% of diagnoses were based on endoscopic ultrasound guided FNAs [6]. The diagnosis is troublesome due to the specimen lacking the specific cellular characteristics or adequate cellularity [6]. Sometimes the samples are contaminated by gastrointestinal

☆ Competing Interests: The authors have declared that no competing interests exist.

* Corresponding author.
E-mail address: thomasmjessen@gmail.com (T. Mørch-Jessen).

https://doi.org/10.1016/j.radcr.2023.05.036

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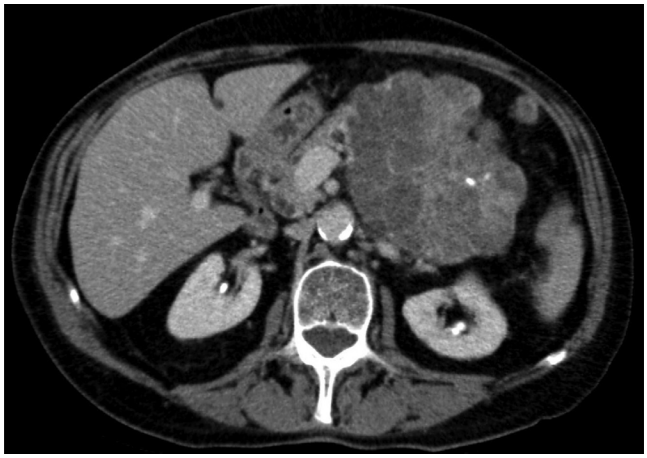

Fig. 1 – Computed tomography with contrast in a venous phase. Shows the axial plane from a 87-years old woman with a pancreatic serous cystadenoma.

epithelium that further hinders the accurate diagnosis of SCA [7]. We present an unusual case of a previous benign SCA with malignant transformation.

Case report/series

An 84-year-old woman turned to the emergency department in 2009 due to recurring cystitis. She was admitted with macroscopic hematuria without fever or abdominal pain. Physical exams of the heart, lungs, abdomen, and extremities provided no additional clues. No previous history of alcohol or smoking. Previous hypertension was now well-treated on Corodil. Normal blood samples (incl. liver, amylase, and hemoglobin). This led to an incidental finding of a 9 × 13 × 12 cm tumor in cauda pancreas on the urography (Figs. 1 and 2). A biopsy confirmed the diagnosis of a microcystic serous cystadenoma. Surgery was not recommended due to age and benign status.

At the age of 97 in 2022 she was admitted due to abdominal pain under the left curvature and nausea. Physical exam revealed a flat and non-peritoneal abdomen with a hard tumor under the left curvature. Blood samples proved low hemoglobin, lightly increased infection numbers and normal electrolytes. A new computed tomography of the abdomen showed growth of the previous tumor to 11 × 14 × 15 cm with ingrowth to the nearby intestines and abdominal wall. Lymph node conglomerates were present posteriorly to ascending aorta and in porta hepatis (Figs. 3 and 4). Treatment was not chosen again due to age and the patient's own wishes.

Discussion

A frequent sign of SCA on CT are lobulated margins (70%) and internal septations (83%). Approximately one-third presents with internal calcifications, of which half is centrally and half

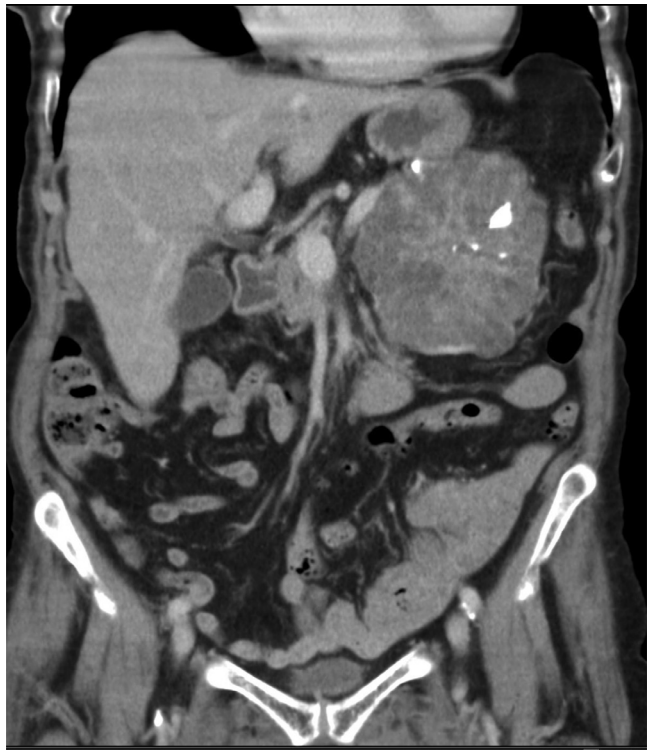

Fig. 2 – Computed tomography with contrast in a venous phase. Shows the coronal plane from the same patient.

is peripherally located. Seldomly they are lined up along internal septations.

Comparing solid and cystic components and background pancreas on the arterial phase with their counterpart on the venous phase proved no difference in attenuation. Peripheral rim enhancement on the arterial phase was found in 31%, and present in 23% in the portal venous phase. Seldomly, dilation of the pancreatic duct (14%) and common bile duct (3%) is seen. However, SCA was found to displace surrounding vascularity due to mass effect in 23% [5].

Despite the previously mentioned characteristics SCA has been further divided into multiple presentations on CT. Morphologically it can range from polycystic, oligocystic, honeycomb, and solid patterns [1].

The polycystic variation is the most common form of presentation and is estimated to be around 70% of the cases of SCA. Typically, it consists of more than 6 cysts and ranges up to 2 cm in size. A fibrous central scar is seen in 30% of these cases and is highly specific for SCA [1].

The oligocystic variation is seen in 10% of the cases and is composed of larger but fewer cysts. These show no central scarring [1]. This can prove difficult to differ from intraductal papillary mucinous neoplasm (IPMN) and mucinous cystic neoplasms (MCN). External lobulation is more indicative of MCN and IPMNs. Usually, communication with the pancreatic duct is not seen with the polycystic and oligocystic pattern [1].

The honeycomb variation constitutes 20% of the cases. It consists of multiple tiny cysts that may be poorly depicted on a CT. They may therefore primarily present as soft tissue or mixed attenuation masses [1].

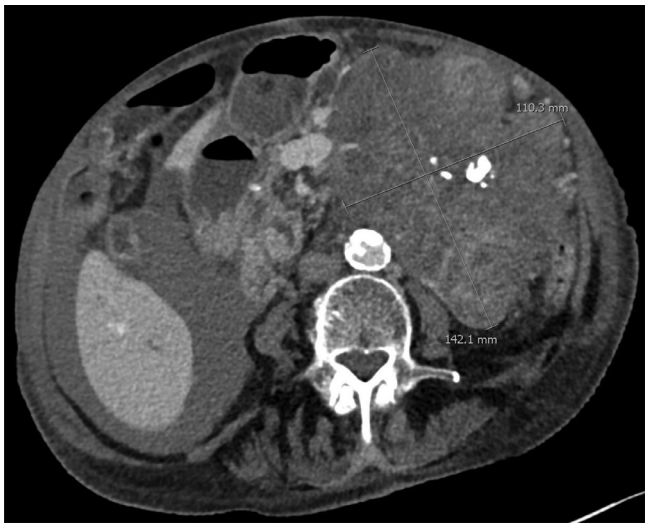

Fig. 3 – Computed tomography with contrast in a venous phase. Shows the axial plane from the same patient 13 years later. The previously mentioned pancreatic serous cystadenoma has grown in size with ingrowth to the nearby intestines and abdominal wall.

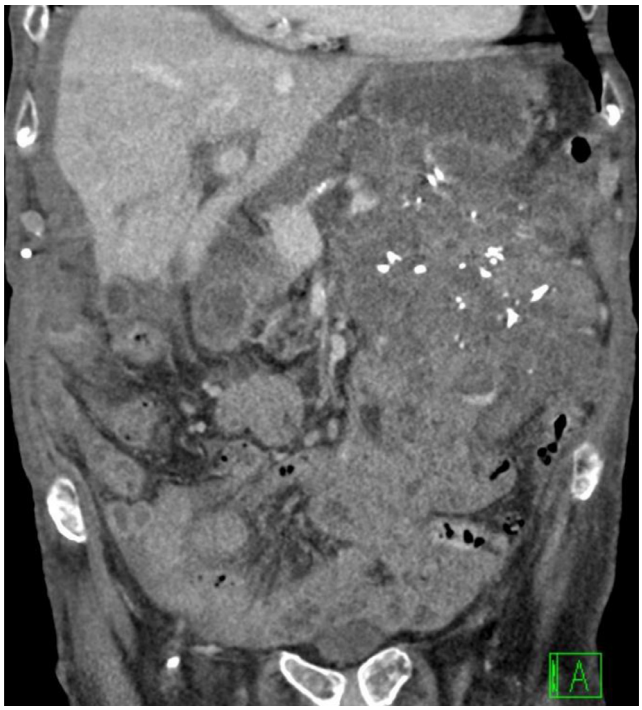

Fig 4 – Computed tomography with contrast in a venous phase. Shows the coronal plane from the same patient 13 years later.

Seldomly, an SCA will present itself with a solid pattern. It contains no cystic pattern and is histopathologically shown to contain thick fibrous bands. A hypervascular pattern can be seen if the stroma demonstrates contrast enhancement [1].

There is slight discussion surrounding the management regime of SCAs.

Due to the usually benign tumor type, surgery is usually not recommended unless it produces symptoms. A certain diagnosis requires no further follow-up or evaluation [4]. In case the tumor is causing symptoms, surgery can be indicated. It can be difficult to ascertain whether the symptoms are truly due to the mass as only 9% report pancreaticobiliary symptoms and 27% presented with nonspecific abdominal pain. Certainly, if a previously asymptomatic patient acquires new symptoms, further diagnostics may be indicated [4]. Some have suggested surgery according to either tumor size or growth rate [3]. A prospective study by El-Hayek et al. [8] suggests surveillance in asymptomatics regardless of the size on initial scans.

A malignant transformation is a rare case. Jais et al. [3] found 3 serous cystadenocarcinomas (0.1%) in a population of 2622 which is below the usually described percentage of 1%-3% [3]. This case was an incidental finding with no specific symptoms related to the mass. It was histologically confirmed to be SCA, hence further surgery was not chosen despite tumor size. There were no further diagnostics until new symptoms arose 13 years later. This case followed the suggested management with wait-and-see.

Patient consent

The patient has given written consent confirming the use of clinical history and scan results for this case report.

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