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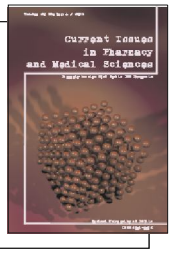

Serous microcystic adenoma of the pancreas

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ABSTRACT

A new case of serous microcystic adenoma in a 75-year-old man is presented. The tumor sized 55x45x55 mm was located in the body and the tail of the pancreas. It was well-circumscribed and spongy on cross-section, with eccentrically located fibrous scar. At microscopic examination, the lesion was composed of many small cystic spaces lined by one layer of flat or cuboidal cells occasionally with clear cytoplasm. A few papillary structures protruding to the lumina of cysts were also seen. Regardless benign nature of the tumor, the patient has died at early postoperative period due to unrelated conditions.

Keywords: pancreas, serous microcystic adenoma, pancreatic serous neoplasm

INTRODUCTION

Serous adenomas are rare lesions comprising about 1–2% of exocrine pancreatic neoplasm [1]. They are found mostly in middle-aged and older patients (mean age 60 years) with female predominance. More than 50% are situated in the tail and the body of the pancreas. Adenomas are usually asymptomatic but abdominal or back pain, nausea, vomiting and palpable mass are also noted in many patients [4]. Majority of lesions behave in a benign fashion, but rarely malignant transformation to a serous cystadenocarcinoma has been reported [7]. The main features associated with more aggressive behavior are large size and location in the head of the pancreas [9].

In a current paper, a new case of pancreatic serous microcystic adenoma is reported.

CASE DESCRIPTION

In a 75-year old man with deep vein thrombosis for two months, abdominal ultrasound examination unexpectedly revealed tumor of the pancreatic tail. It was confirmed by the computed tomography. Partial resection of the pancreas with splenectomy was performed in the Department of General and Transplant Surgery and Nutritional Treatment, Medical University of Lublin.

In the surgical specimen assessed in the Department of Clinical Pathomorphology, Medical University of Lublin, the tumor 55x45x55 mm in size, located in the body and the tail of the pancreas was found. It was well-circumscribed and spongy on cross-section, with eccentrically located scar (Fig. 1). In microscopic examination the lesion was composed of numerous small cystic spaces (<5 mm). Majority of cysts were lined by attenuated flat epithelium (Fig. 2A). In some of them single layer of cuboidal cells with clear cytoplasm and small, centrally located nuclei with barely visible nucleoli was seen. Periodic acid Schiff (PAS) reaction was positive in those cells. Occasionally, papillary structures protruding to the lumina of cysts were also observed (Fig. 2B). Cellular and nuclear polymorphism, mitotic figures and necrosis were not fund. Irregular, stellate scar consisting of a hyalinised fibrous connective tissue with few foci of dystrophic calcification was also seen (Fig. 3). The tumor was unencapsulated but an interstitial fibrosis and atrophy of parenchyma around the lesion was observed. Furthermore, multiple thrombi in the lumina of pancreatic branches of the splenic artery were noted. The diagnosis of pancreatic microcystic serous adenoma was established.

Unfortunately, re-operation had to be done immediately after the first procedure, due to hemorrhage from stump of the pancreas and short gastric veins. Sudden death of the patient took place two days after the resection

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due to the acute cardiovascular incident, but the autopsy was not performed.

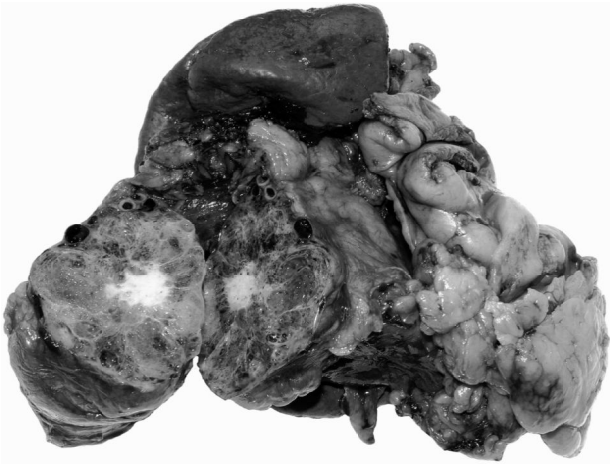

Fig. 1. Gross aspect of pancreatic adenoma – well-circumscribed, spongy, brownish tumor located in the body and the tail

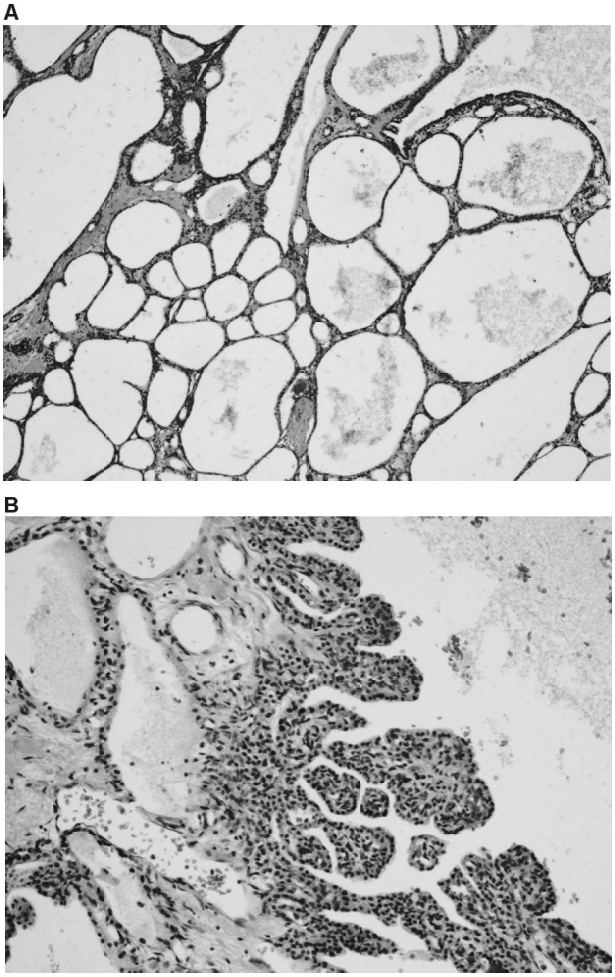

Fig. 2. Pancreatic serous microcystic adenoma composed of numerous cystic spaces lined by attenuated flat (A) or cuboidal epithelium forming papillary projections (B) (H&E; objective magn. A – 10x; B – 20x)

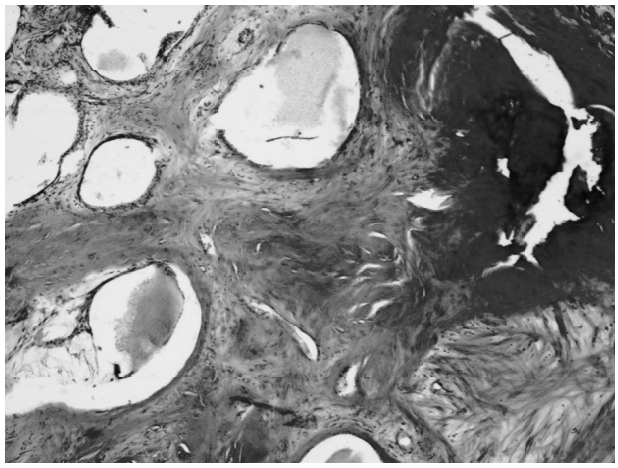

Fig. 3. Hyalinised fibrous scar with foci of dystrophic calcification in serous microcystic pancreatic adenoma (H&E; objective magn. 10x)

DISCUSSION

With the widespread use of abdominal imaging, asymptomatic, incidentally discovered or symptomatic cystic pancreatic lesions including adenomas are being identified more frequently [2]. Polycystic, honeycomb and oligocystic patterns are typical imaging findings. In the presented case, a honeycomb pattern characterized by numerous small cysts was noted. That type of pattern appears as well-circumscribed lesion, but cysts smaller than 1 cm cannot be individually distinguished by cross-sectional imaging [3]. Endoscopic ultrasonography (EUS) can be particularly helpful in demonstrating septae and solid components and guiding for fine needle aspiration for cyst-fluid sampling. EUS with confirmation of a negative cytology by fine needle aspiration, low fluid levels of CEA (<5 ng/mL) and CA19–9 as well as lack of mucin may lead to identification of serous benign lesions [10]. Nevertheless, preoperative distinguishing between benign and malignant serous lesions remains difficult [6]. Resection of the tumor is usually recommended for symptomatic patients or those with lesions measuring at least 30 mm or with a solid component [4, 10].

Microscopic examination of serous microcystic adenomas shows multiple cysts filled with clear or bloody-stained fluid and separated by fibrous connective tissue septae of varying thickness. Cysts are lined by single layer of flattened or cuboidal epithelial cells with bland, central, round or oval nuclei with inconspicuous nucleoli and pale, glycogen-rich cytoplasm [1, 5, 10]. The tumor cells are strongly positive for EMA (epithelial membrane antigen), cytokeratins 7, 8, 18 and 19, whereas negative for trypsin, vimentin, CEA, S-100 protein, synaptophysin and chromogranin [1]. Presence of central scar helps in confirmation of diagnosis and distinguishes from another type of serous benign lesion – oligocystic adenoma, which occurs also in children, with no sex and age predilection [3].

Differential diagnosis of serous cystic adenoma includes other cystic pancreatic lesions, lymphangiomas and metastatic clear cell carcinoma. Most of cystic lesions in the pancreas are characterized by some malignant potential [1, 8]. For serous cystadenomas the risk of malignancy is very low. However, in mucinous cystadenomas composed of tall, columnar cells with basal nuclei, interspersed goblet cells and hypercellular, dense stroma surrounding cystic spaces, *in situ* or invasive carcinoma are found in up to 60% [8]. Degenerative cysts without epithelial lining are seen in a solid pseudopapillary tumor [1, 2]. Acinar cell cystadenocarcinoma show acinic pattern and lack of central stellate scar. Pancreatic lymphangioma are formed by glycogen- and keratin-negative cystic spaces whereas lymphoepithelial cysts are characterized by squamous epithelial lining with abundant lymphoid stroma [1]. Glycogen-positive cells are also seen in metastatic clear cell carcinoma, but presence of tubular structures, cells with cytoplasmic lipids and nuclear atypia are typical features.

In summary, serous cystic adenomas are rare and generally thought to be benign with low risk of malignant transformation. However, they need to be properly diagnosed and differentiated from other potentially malignant or frankly malignant pancreatic lesions to introduce adequate treatment and assesses prognosis in particular patient.

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