Human Pathology (2016) **56**, 52–56

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Human PATHOLOGY

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Case study

Pancreatic analogue solid pseudopapillary neoplasm arising in the paratesticular location. The first case report☆,☆☆

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Received 22 January 2016; revised 27 April 2016; accepted 3 June 2016

Keywords:
Testis;
Paratesticular;
Pancreatic analogue solid pseudopapillary neoplasm;
CTNNB1 gene;
Testis;
Paratestis;
Solid pseudopapillary neoplasm;
CTNNB1 gene

Summary We describe the first pancreatic analogue of solid pseudopapillary neoplasm arising in paratesticular location. It was a tumor arising in 32-year-old man adhering closely to the testis. The tumor had several morphologic components. The greatest was represented by signet ring cells which gradually changed into solid, non–signet ring cell areas, often being mixed together. It also formed distinct trabeculae and pseudopapillae frequently adhering to cystic areas of the tumor. Immunohistochemically, the tumor had an identical profile to its pancreatic counterpart. The tumor cells reacted diffusely with S100 protein, β-catenin, cyclin D1, Fli-1, vimentin, CD10, galectin-3, and neuron-specific enolase and focally with synaptophysin. CD56 and E-cadherin reacted only in those parts of the tumor, which formed pseudopapillae. Cytokeratin antibody AE1-AE3 was strongly positive in the areas of trabecular formation of the tumor. The mutational analysis of exon 3 of the *CTNNB1* gene confirmed mutation in this exon.

1. Introduction

Solid pseudopapillary neoplasm (SPN) is an epithelial neoplasm of the pancreas first recognized by Frantz [1] in 1959. It occurs primarily in young women in their 20s. There have been described 4 cases outside the pancreas: a colonic example arising allegedly from ectopic pancreas [2] and in 2010 the first 3 cases arising primarily in the ovary [3]. We describe the first case of pancreatic analogue of SPN arising in the paratesticular location.

2. Case report

2.1. Clinical course

A 32-year-old man presented with a tumor adhering closely to the right testis. Thorough check-up did not reveal any tumor elsewhere in the body including pancreas. Three months after

☆ Competing interests: The authors have no conflicts of interest to disclose.
☆☆ Funding/Support: The study was supported by the Biomedical Center of the Faculty of Medicine in Pilsen, project number CZ.1.05/2.1.00/03.0076.
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http://dx.doi.org/10.1016/j.humpath.2016.06.007
0046-8177/

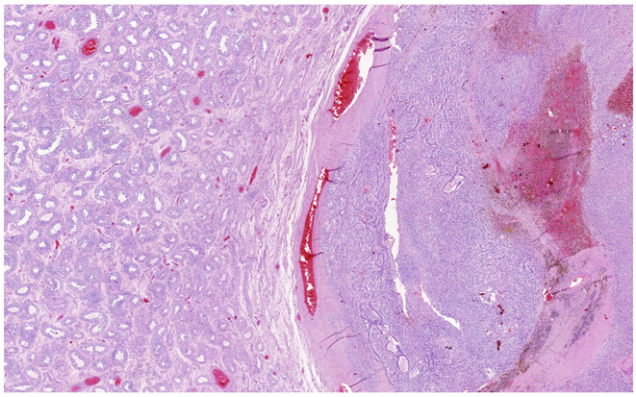

Fig. 1 The tumor was in the paratesticular position. In the septa of the neoplasm, there were deposits of hemosiderin, Gandy-Gamna bodies, and foamy macrophages as remnants of old hemorrhage.

the excision, the patient was without any signs of recurrences and metastases.

2.2. Gross and microscopic examination

The tumor adhered closely to the right testis (Fig. 1). The tumor was 4.8 × 4 × 3 cm in size, lobulated, and gray in color with hemorrhagic spots on cut section.

Microscopically, adjacent testis had normal appearance. There was no intratubular germ cell neoplasia inside the testicular tubules. The tumor had several morphologic components. The greatest one was the signet ring cell component (Fig. 2A). This component gradually changed into the solid, non–signet ring cell areas (Fig. 2B) and these areas often mixed together (Fig. 2C). Another characteristic picture was the formation of distinct trabeculae (Fig. 2C). Small parts revealed oncocytic change, which was reminiscent of endometrial decidual change (Fig. 2D). Focally, periodic acid–Schiff–positive hyaline globules were found in the tumor. In the septa of the neoplasm, there were deposits of hemosiderin, Gandy-Gamna bodies, and foamy macrophages as remnants of old hemorrhage (Fig. 1).

2.3. Immunohistochemistry

The tumor cells reacted strongly and diffusely to antibodies to vimentin (Table), CD10, galectin-3, S-100 protein (Fig. 3), androgen receptors, α-antitrypsin, and neuron-specific enolase (NSE), and focally positively to synaptophysin and progesterone receptors antibody. There was distinct diffuse intranuclear positivity with antibodies to β-catenin and cyclin D1. CD56 and E-cadherin reacted in those parts of the tumor, which formed pseudopapillae. The signet ring cell component was CD56 and E-cadherin negative. Fli-1 reacted diffusely by a weak intranuclear positivity. Cytokeratin antibody AE1-AE3

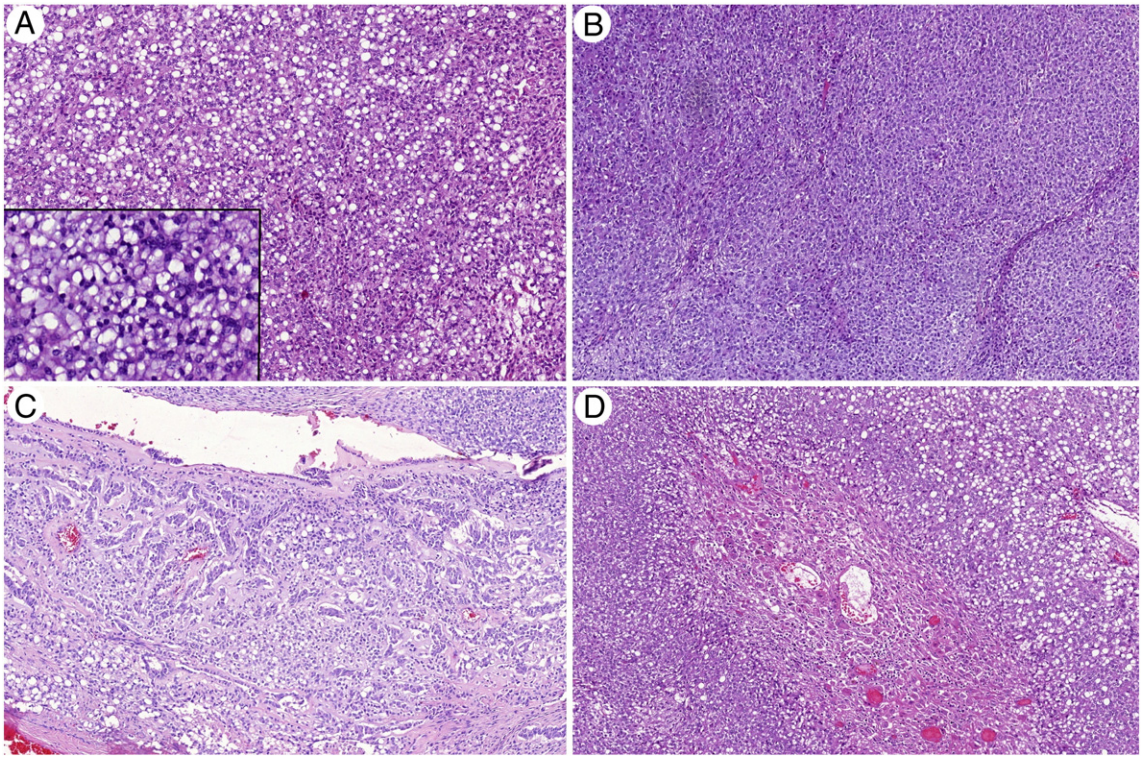

Fig. 2 A, The greatest part of the tumor represented signet ring cell component. This signet ring cell component gradually changed into the solid, non–signet ring cell areas (**B**), or these 2 components were intermixed (**C**). D, Small parts revealed oncocytic change, which was reminiscent of endometrial decidual change.