Case Report

Cytodiagnosis of serous oligocystic adenoma of the pancreas with an unusual clinical presentation

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ABSTRACT

Benign serous oligocystic adenoma, also known as "macrocystic adenoma" is a rare variant of serous cystadenoma of exocrine pancreas which often mimics a malignant tumor clinically as well as radiologically. It has no age or sex predilection and occurs in children also. Here we report a case of serous oligocystic adenoma of 12 cm diameter occurring in a young female, located in the head of pancreas. She presented with a mass abdomen and progressive obstructive jaundice. Clinical and radiological findings simulated a pancreatic carcinoma. Preoperative ultrasound-guided trans-abdominal fine-needle aspiration cytology was done which revealed groups of bland epithelial cells with round nucleus. A benign cystic epithelial neoplasm was diagnosed through cytological features. The patient underwent surgery and the neoplasm was enucleated sparing the major portion of pancreas. Postoperative period was uneventful. Histopathology examination of the specimen confirmed it as "serous oligocystic adenoma of the pancreas." It is essential to diagnose serous oligocystic adenoma preoperatively through cytology to avert a major surgery and the uninvolved pancreas can be spared.

Key-words: Cytology, head of pancreas, obstructive jaundice, rare exocrine pancreatic neoplasm, serous oligocystic adenoma

INTRODUCTION

Serous oligocystic adenoma of pancreas is a rare benign tumor of the exocrine pancreas. 40% of the cases are asymptomatic and are detected incidentally. Cytology literature on serous oligocystic adenoma is sparse. It is important to diagnose serous oligocystic adenoma on aspiration cytology to differentiate it from pancreatic carcinoma and other mucinous cystic neoplasms because patients with serous cystadenoma can be treated conservatively unless they are symptomatic. We present here a rare case of oligocystic adenoma occurring in a young female, diagnosed through trans-abdominal ultrasound-guided fine-needle aspiration cytology. The neoplasm was located in the head of pancreas, an uncommon location and she presented with progressive obstructive jaundice, an uncommon presentation.

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CASE REPORT

A 23-year-old female presented with a 6-week history of abdominal discomfort and loss of weight. A vague lump was palpated in the epigastric region. Later she developed progressive obstructive jaundice. Ultrasonography revealed an approximately 12 cm × 10 cm solid and cystic mass involving the head of pancreas with specks of calcification. All the other basic investigations were within normal limits. A clinical diagnosis of pancreatic carcinoma was made.

Trans-abdominal ultrasound-guided fine-needle aspiration cytology was done and aspirated brownish serous fluid. Cytology smear showed groups of benign ductal epithelial cells with scanty eosinophilic cytoplasm and round nuclei without atypia. Naked nuclei were also present occasionally in a proteinaceous background [Figure 1]. These cytologic features were in favor of a benign epithelial neoplasm of pancreas. Since the patient was symptomatic and suffering

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with obstructive jaundice, an exploratory laprotomy was done to excise the cystic mass. It revealed a large solid and cystic encapsulated neoplasm of 12×10×6 cm in size in the head of pancreas. It was enucleated easily suggesting the benign nature of the tumor. The cut surface showed few large cysts filled with hemorrhagic fluid with predominant areas of fibrosis. It lacked the central stellate scar which is a characteristic feature of serous microcystic adenoma.

Microscopic examination of the tissue sections showed cystic spaces lined by benign cuboidal epithelial cells with clear cytoplasm, round centrally placed nucleus, and inconspicuous nucleoli. The cyst wall and the stroma showed inflammation and extensive fibrosis [Figure 2]. Foci of dystrophic calcification were also seen. Histopathology confirmed the cytologic diagnosis and the report was given as "serous oligocystic adenoma of pancreas." The post operative recovery period was uneventful with disappearance of all the signs and symptoms.

DISCUSSION

Cystic pancreatic neoplasms are rare, accounting for 10 -15% of all pancreatic cysts and constitute only 1% of all pancreatic neoplasms.[1] Serous cystadenomas are mostly benign and can be either serous microcystic adenoma or serous oligocystic adenoma.[2] Serous microcystic adenomas usually has many tiny cysts, frequently more than six loculi, measuring less than 2 cm in diameter. Oligocystic adenomas have a few cysts, usually more than 2 cm in diameter. Serous olgocystic adenoma is a benign neoplasm composed of relatively large cysts lined by uniform glycogen rich cuboidal epithelial cells which includes the tumor categories of macrocystic adenoma and the solid cystic adenoma.[3]

Serous oligocystic adenoma is much less common than serous microcystic adenoma without any age or sex predilection.[4] Most serous oligocystic adenomas are located in the body of pancreas. The most common symptoms are upper abdominal pain or discomfort and steatorrhea. Rarely, it can be located in the head and may obstruct the periampullary portion of the common bile duct resulting in progressive obstructive jaundice.[5]

These neoplasms appear grossly as a cystic mass of 4-10 cm, usually unilocular, with cut surface showing one or few macroscopically visible cysts of variable sizes usually more than 2 cm, filled with watery or brownish fluid.[6] The irregularly arranged cysts are separated by broad septa of fibrous stroma that lacks a central stellate scar.[7]

Microscopically serous oligocystic adenoma shows the cystic spaces lined by single layer of cuboidal flattened epithelial cells with clear cytoplasm and rarely eosinophilic. The nuclei are centrally located, round to oval in shape, uniform, and have an inconspicuous nucleoli.[8] The cells contain abundant intracytoplasmic glycogen which can be demonstrated by per iodic acid Schiff stain without diastase digestion. The stromal frame work is well developed and often hyalinized.[9]

Differential diagnosis includes other cystic lesions of pancreas, pancreatic carcinoma, lymphoma, pseudocyst, mucinous cystadenoma, lymphangioma, and metastatic renal cell carcinoma.[8,9] It is important to distinguish serous oligocystic adenoma from mucinous cystic neoplasm because oligocystic adenoma has a better prognosis and a lesser premalignant potential than mucinous cystadenomas.[8,9]

Immunohistochemically, the epithelial nature of this neoplasm is reflected in its immunoreactivity for epithelial membrane antigen and cytokeratin 7, 8, 18, and 19.[9,10]

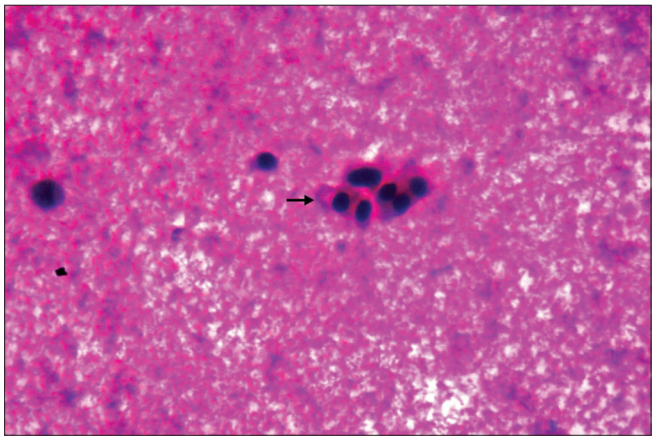

Figure 1: Cytology smear shows a few bland epithelial cells with scanty eosinophilic cytoplasm in a proteinaceous background. The nuclei are round, regular without any atypia (H and E, 100×)

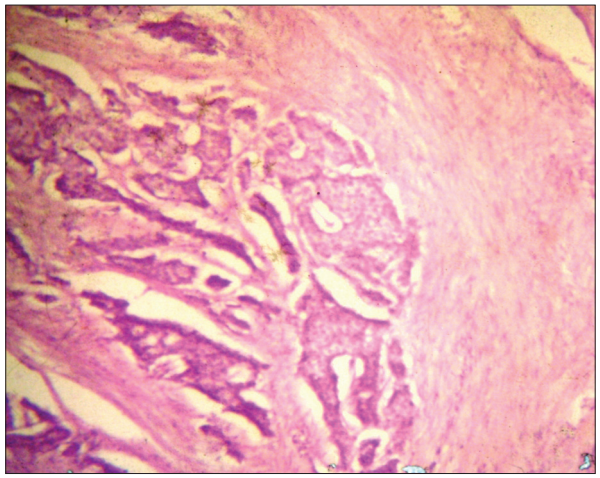

Figure 2: Histopathology section shows a neoplasm with cystic spaces lined by benign flattened cuboidal cells and adjacent hyalinized stroma (H and E, 100×)

CONCLUSION

A cytologic definitive diagnosis is possibly based on the cytological features as described in the case report along with the clinical and radiological correlation. This case is presented here to stress the fact that the patients with benign serous cystic neoplasms, diagnosed in time through cytology, can be spared of major surgical procedures and its consequences. Serous oligocystic adenoma has a good prognosis like serous microcystic adenoma, but extensive sampling of the specimen is needed to rule out a nidus for malignancy.[11]

REFERENCES

1. Solcia E, Capella C, Kloppel G. Tumors of the pancreas. In: Rosai J, Sobin LH, editors. Tumors of the pancreas. Atlas of tumor pathology, 3rd series, fascicle 20. Washington, DC: Armed Forces Institute of Pathology;1997.p.31 -45.
2. Lewandrowski K, Warshaw A, Compton C. Macrocystic serous cystadenoma of the pancreas: A morphologic variant differing from microcystic adenoma. Hum Pathol 1992;23:8715.
3. World Health Organisation international histological classification of tumors. In: Kloppel G, Solcia E, Longnecker DS, editors. Histologic typing of tumors of the exocrine pancreas. 2nd ed. Berlin: Springer- Verlag; 1996.
4. Capella C, Solcia E, Kloppel G, Hruban RH. Serous cystic neoplasms of the pancreas. In: Hamilton SR, Aaltonen LA, editors. World Health Organization Classification of Tumours. Pathology and genetics of tumours of the digestive system. Lyon: IARC Press; 2000. p. 232-3.
5. Chatelain D, Hammel P, O'Toole D. Macrocystic form of serous pancreatic cystadenoma. Am J Gastroenterol 2002;97:2566-1.
6. Khadaroo R, Knetman N, Joy S, Nguyen GK. Macrocystic serous adenoma of the pancreas. Pathol Res Pract 2002;198:485-8.
7. Fujiwara H, Ajiki T, Fukuoka K, Mitsutsuji M, Yamamoto M, Kuroda Y. Macrocystic serous cystadenoma of the pancreas. J Hepatobiliary Pancreat Surg 2000;7:92-6.
8. Khurana B, Mortele KJ, Glickman J, Silverman SG, Ros PR. Macrocystic serous adenoma of the pancreas: Radiologic-pathologic correlation. AJR Am J Roentgenol 2003;181:119-3.
9. Jacob S, Rawat P, Mark RP. Serous microcystic adenoma (glycogen rich adenoma) of the pancreas. Indian J Pathol Microbiol 2010;53:106-8.
10. Malur PR, Suranagi VV, Bannur HB, Kulgod S. Serous microcystic adenoma of the pancreas. Indian J Pathol Microbiol 2009;52:408- 10.
11. Gupta R, Dinda AK, Singh MK, Misra MC. Macrocystic serous cystadeno carcinoma of the pancreas: The first report of a new pattern of pancreatic carcinoma. J Clin Pathol 2008;61:396-8.

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