CASE REPORT

Diagnosis of a Metastatic Phyllodes Tumor of the Pancreas using EUS-FNA

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ABSTRACT

Context Phyllodes tumors are rare fibro-epithelial lesions which make up less than 1% of all breast neoplasms. After curative surgery, distant metastases may occur without local recurrence; the typical sites of the metastases being the lungs and the bones. Endoscopic ultrasound (EUS) and EUS-guided fine needle aspiration (EUS-FNA) has emerged as the leading modalities for the evaluation of pancreatic masses. Until now, there have been no published reports on the use of EUS-FNA to diagnose recurrent phyllodes tumors metastatic to the pancreas.

Case report A 55-year-old female was hospitalized for the problem of painless obstructive jaundice due to a pancreatic head mass causing biliary obstruction. She had a past history of a left breast phyllodes tumor treated with mastectomy. The diagnostic dilemma was whether this was a case of primary pancreatic cancer or a recurrent phyllodes tumor presenting as a pancreatic metastasis. EUS-FNA of the mass was performed and it revealed a metastatic phyllodes tumor. The patient was treated with palliative biliary stenting and was referred for palliative chemotherapy.

Conclusion This is the first report of a recurrent phyllodes tumor metastatic to the pancreas diagnosed using EUS-FNA. It highlights the utility of EUS-FNA in characterizing the nature of pancreatic head masses.

INTRODUCTION

Phyllodes tumors are rare fibro-epithelial lesions which make up less than 1% of all breast neoplasms [1]. After curative surgery, distant metastases may occur without local recurrence; the typical sites of the metastases being the lungs and the bones. Until now, only 2 case reports have been published concerning the rare occurrence of a phyllodes tumor metastasizing to the pancreas [2, 3]. In both instances, histological confirmation was obtained after surgical resection. Endoscopic ultrasound (EUS) and EUS-guided fine needle aspiration (EUS-FNA) have emerged as the leading modalities for the evaluation of pancreatic masses, both for primary pancreatic tumors and for suspected metastases [4, 5]. We believe this to be the first report of the use of EUS-FNA for the diagnosis of a recurrent phyllodes tumor metastatic to the pancreas.

CASE REPORT

A 55-year-old female was hospitalized for the problem of painless obstructive jaundice. She

Figure 1. Pancreatic head mass (a) seen on CT.

had a history of left breast phyllodes tumor treated with mastectomy 3 years earlier. On examination, she was afebrile but deeply jaundiced and cachectic. Courvoisier's sign was positive. Total serum bilirubin was 205 µmol/L (reference range: 3-24 µmol/L) and alkaline phosphatase was 480 U/L (reference range: 32-103 U/L). Contrast-enhanced computer tomography showed biliary dilatation due to a hypodense lesion in the pancreatic head (Figure 1). The diagnostic dilemma was whether this was a case of primary pancreatic cancer or a recurrent phyllodes tumor presenting as pancreatic metastasis, which is very rare. She underwent EUS with a linear echoendoscope (GFUC160P, Olympus, Tokyo, Japan) and it revealed an isolated hypodense pancreatic mass measuring 2.8x2.9 cm, with proximal

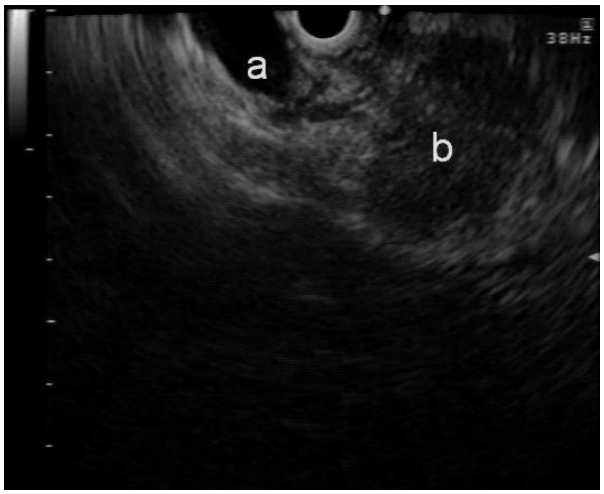

Figure 2. EUS showing a dilated common bile duct (a) due to a pancreatic head mass (b).

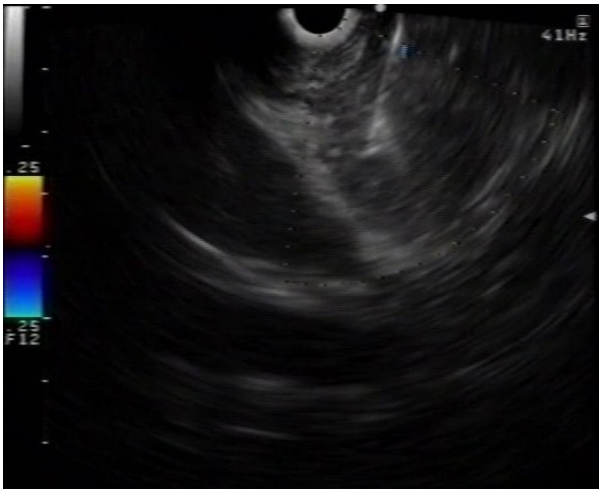

Figure 3. EUS-FNA of a pancreatic head mass.

biliary dilatation (Figure 2). EUS-FNA (Figure 3) was performed using a 22-gauge needle (1-22 Echotip®; Wilson-Cook Medical, Winston-Salem, NC, USA) and a diagnosis of metastatic phyllodes tumor was made (Figure 4). The patient was treated with palliative biliary stenting and was referred for palliative chemotherapy.

DISCUSSION

Phyllodes tumors are very rare fibroepithelial breast neoplasms which exhibit a spectrum of clinical behavior ranging from benign tumors which may be indistinguishable from fibroadenomas and which may cured by local surgery to aggressive malignant tumors which have a propensity for rapid growth and

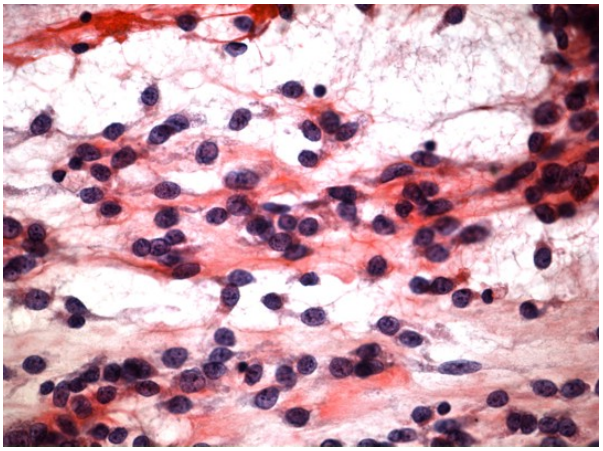

Figure 4. Cytological confirmation of a recurrent phyllodes tumor. There are many stromal cells showing cytological atypia, having nuclear enlargement, irregular chromatin and an irregular nuclear membrane.

metastatic spread [1]. Local recurrence rates have been reported to range from 8% [6] to 40% [7] while recurrence with distant metastases has been reported to occur in up to 21% of cases [8]. Most recurrences with distant metastases occur without evidence of local recurrence [9]. The most common sites of metastases are the lungs and the bones, although there have also been rare reports of metastases to the duodenum [10], the brain [11] and the pancreas [2, 3]. In the rare instances of metastases to the pancreas reported in the literature, histological confirmation of phyllodes tumors was obtained after surgical resection.

In the context of an isolated pancreatic head mass with biliary obstruction, the diagnostic concern would be whether the mass was benign or malignant and, if malignant, whether it represented primary pancreatic cancer or a metastasis to the pancreas. This is of prognostic significance, because primary pancreatic head cancer may be potentially resectable whereas the prognosis of tumors metastatic to the pancreas is usually dismal. In the case of metastatic phyllodes tumors in particular, no long term survival has been reported [1].

EUS and EUS-FNA have emerged as the leading modality for the evaluation of pancreatic masses. The utility of EUS in the evaluation of pancreatic metastases was first evaluated by Fritscher-Ravens *et al*. in a single centre study in Germany [4]. One hundred and fourteen consecutive patients with focal pancreatic masses detected on CT underwent EUS-FNA. Carcinomas were identified in 68 cases, 56 of pancreatic origin and 12 from distant primary tumors. The echo-texture was heterogeneous or hypoechoic in all cases and resembled that of the primary tumors. Six of the 12 patients with metastatic disease had a prior diagnosis of cancer (breast: 3; renal cell: 2; salivary gland: 1). Six patients without a prior diagnosis of cancer had metastases from renal cell, colonic, ovarian, and esophageal carcinomas; one metastasis was from an unknown primary tumor and another was from a malignant lymphoma. The authors concluded that pancreatic metastasis was an important cause of focal pancreatic lesions, but the EUS features were not diagnostic and EUS-FNA was required to reach a cytological diagnosis. In a multicenter study from the United States, DeWitt *et al*. analyzed 24 patients with pancreatic metastases who underwent EUS-FNA [5]. Diagnoses included metastases from primary kidney (n=10), skin (n=6), lung (n=4), colon (n=2), liver (n=1), and stomach (n=1) cancer. Compared with primary cancer, pancreatic metastases were significantly more likely to have well-defined margins. No statistically significant differences between the two populations were noted for tumor size, echogenicity, consistency, location, or lesion number.

It is frequently impossible to differentiate between primary pancreatic cancer and a metastasis to the pancreas based solely on clinical or radiological features. This is the first report of a recurrent phyllodes tumor metastatic to the pancreas diagnosed by EUS-FNA. It highlights the utility and importance of EUS-FNA in characterizing the nature of pancreatic head masses in order to guide treatment options.

Received October 11th, 2006 - Accepted November 4th, 2006

Keywords Endosonography; Neoplasm Metastasis; Phyllodes Tumor

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Document URL: http://www.joplink.net/prev/200701/05.html

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