CASE REPORT

Pancreatic Metastasis of Breast Cancer: A Rare Cause of Obstructive Jaundice

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ABSTRACT

The pancreas is rare site of metastasis from malignant tumours. Pancreatic metastasis accounts for less than 5% of all pancreatic malignancies. The most common malignancies metastasizing to pancreas are the renal cell carcinoma, non-small cell lung carcinoma, and colon carcinoma. Pancreatic metastases from breast cancer is rare clinical entity, and is associated with dismal prognosis. Here-in we present a rare case of solitary pancreatic metastasis from ductal breast carcinoma.

Key words: Pancreatic metastasis, breast cancer, treatment.

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INTRODUCTION

Pancreas is very uncommon target for metastasis, and the common location is the head of pancreas[1]. The common primary malignancies which tend to metastasize to pancreas are the kidney, lung, colon, stomach and melanoma[2]. Metastatic pancreatic involvement is extremely rare clinical scenario in breast cancer, and is more frequently seen after the diagnosis of primary breast cancer[2]. Pancreatic metastases may clinically mimic primary pancreatic adenocarcinoma, however most of patients remain asymptomatic, and are diagnosed incidentally[3]. Pancreatic metastases in breast cancer reflect high tumor burden and grave prognosis.

Case presentation:

A 44-year-old Kuwaiti woman presented with the history of right breast lump for ten months, which had been increasing is size with pain over past one month without any nipple discharge. She also had complaints of pale stools, pruritus, upper abdominal pain and weight loss since last three weeks. Her previous medical, surgical and family history was unremarkable. On physical examination, she was severely icteric. There was a central right breast diffuse mass of size 8 x 8 cm associated with skin dimpling and palpable mobile single axillary lymph node. Abdominal examination revealed deep tenderness in epigastrium without any palpable mass or visceromegaly. The rest of examination was unremarkable. Right breast mammogram was highly suspicious for central right breast malignancy Fig.1A.

Hematology, renal function tests and serum electrolytes were found within normal limits; however her liver function tests (LFTs) were deranged and the cancer antigen (CA) 15.3 (CA-15.3) levels were raised. Other tumor markers were within normal limits.

Trucut biopsy specimen of right breast mass showed invasive ductal carcinoma (IDC); modified Scarff Bloom-Richardson (SBR) grade III, Ki-67 = 28%, exhibiting absence of estrogen receptor (ER), progesterone receptors (PR) and HER2-overexpression (triple negative). Computed tomography (CT) of abdomen showed a pancreatic head mass of size 3.7 x 4.2 cm causing obstruction of the main pancreatic duct; however there was no abdominal lymphadenopathy Fig.1B. Rest of staging work up was found negative.

An endoscopic retrograde Cholangiopancreatography (ERCP) guided biopsy of pancreatic mass was taken followed by stenting. The presence of small poorly differentiated scattered tumor cells infiltrating the pancreatic parenchyma; immunonegativity of cytokeratin-7 (CK7), CK20, ER, PR and immunopositivity of CK19 and mammoglobin confirmed the diagnosis of pancreatic metastasis of breast origin Fig.2.

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Patient was treated with systemic chemotherapy based on gemcitabine and cisplatin (six cycles), followed by modified radical mastectomy (MRM), axillary clearance and pancreaticoduodenectomy for isolated pancreatic metastasis. Final pathological stage was made as ypT3N0M1. At the time of publication, patient was receiving systemic chemotherapy.

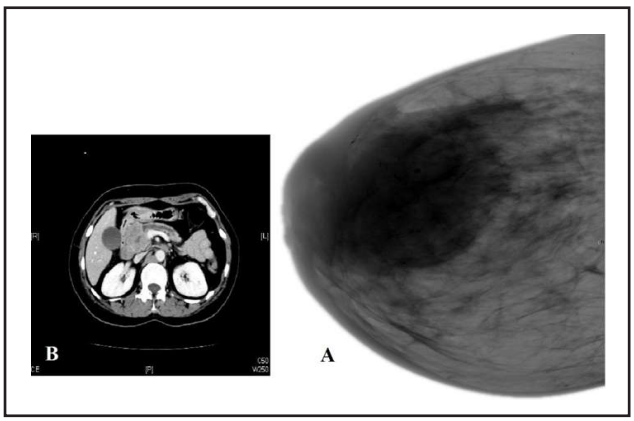

Fig. 1: (A) right central malignant breast mass, and (B) Computed tomography of abdomen showing a pancreatic head mass of size 3.7 x 4.2 cm, compressing the main pancreatic duct

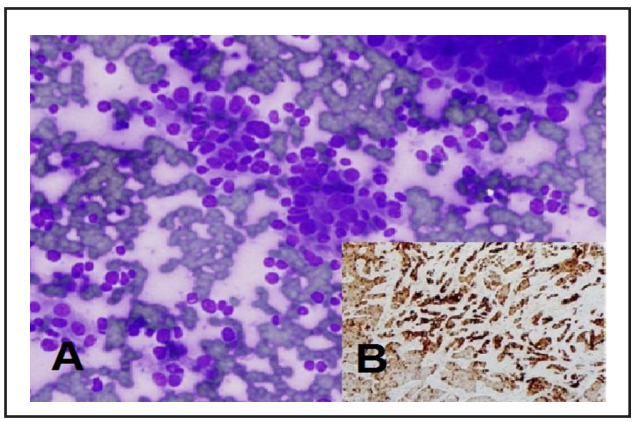

Fig. 2: Pancreatic mass specimen showing (a) Infilterating clusters of small poorly differentiated scattered tumor cells in the pancreatic parenchyma (H&E x100), (b) immunopositivity of CK19 and mammoglobin confirming diagnosis of pancreatic metastasis of breast origin

DISCUSSION

In breast cancer, the risk of pancreatic metastases in the absence of lung, liver or bone is less than 3%[3]. Exact pathogenesis is not well known; possible hematogenous spread is well supported, and common location is the head of pancreas with presenting symptom of obstructive jaundice associated with abdominal pain and weight loss, as seen in our patient[4].

In the our patient, the surgeon initially decided for upfront radical mastectomy and pancreaticoduodenectomy. However, such massive surgery possibly could reduce the immune response of patient and chemotherapy delay. Considering the triple negative status (aggressive behavior), and to give the patient maximum palliation and survival benefit, we gave her Gemcitabine based chemotherapy, which is effective cytotoxic agent in breast and pancreatic tumors.

Differentiating pancreatic metastases from primary pancreatic adenocarcinoma is challenging. Pancreatic metastases appear more vascular than primary pancreatic adenocarcinoma on CT, which is often hypovascular; however, not all pancreatic metastases are hypervascular and these lesions must still be distinguished from primary pancreatic neuroendocrine tumors[3]. A panel for immunohistochemical staining including CK profile and mammoglobin is confirmatory for the diagnosis of pancreatic metastases[5]. However, in our patient ER, PR and HER2-overexpression status was negative; which may further aid in the differential diagnosis.

Solitary pancreatic metastases can be cured with pancreaticoduodenectomy with reported survival of 12 to 132 months[4]. but for unresectable lesions, alternate option is endoscopic palliation of cholestasis, chemotherapy and radiotherapy.

In conclusion, isolated synchronous pancreatic metastases from breast cancer are extremely rare and indicate dismal prognosis. Pathological examination alongwith immunohistochemistry is confirmatory.

Conflict of interest:

Authors have no potential conflict of interest, and no grants or funds received for this case report. Written informed consent was taken from patient for the publication of this case report.

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