Metastatic breast cancer with a large fungating breast mass in a developed country: A caveat to our strategy

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Abstract:

A 49-years-old female presented with severe persistent headache. Further evaluation unraveled fungating right breast mass and a new diagnosis of poorly differentiated invasive ductal carcinoma with brain metastasis as the cause of the symptoms was made. Diagnosis of breast cancer with large fungating mass and brain metastasis on presentation in this era is still shocking. It makes us question the reasons behind these unfortunate presentations which include but are not limited to: unawareness about the risk factors, symptoms, complications and the available screening guidelines, embarrassment from the site of lesion, or socioeconomic status.

Key Clinical Message

Discussion about breast cancer and screening mammogram at 40-49 years will create awareness about it and encourage females volunteer any abnormalities. Breast examination at every annual physical visit should be encouraged among physicians.

Key Words: Diaphragmatic herniation, caudate lobe of the liver, posterior mediastinal mass

Case History:

Breast cancer is the most common cancer and is the second most cause of cancer death in the United States. Despite various measures, there are still patients presenting in advanced stages of cancer making us wonder about the effectiveness of these measures in the healthcare system and the need for further intervention.[1,2]

Question: What is one of the differential diagnoses of persistent worsening headache?

Answer:

We present a case of breast cancer with brain metastasis at initial presentation in a developed country.

A 49-years-old female presented to the emergency department with progressive worsening of headache of 1 week duration. She also endorsed a mass in the right breast which started as a lump 10 months ago, which continued to increase in size, associated with tenderness, episodes of bleeding and purulent drainage. Other significant histories include hypertension not on treatment, does not have a primary care physician, no prior mammogram, 5 healthy living children who were breastfed, no history of alcohol consumption or smoking, history of pancreatic cancer in mother at 60's and breast cancer in aunt at 50's and paternal cousin at 40's. On presentation she was hypertensive, in acute distress due to pain and examination was significant for a large ulcerated fungating right breast mass(Figure 1) with multiple right axillary lymphadenopathy and without neurological deficits.

Ultrasound of the right breast showed 8.6 x 8 cm heterogeneous mass with blood flow. Computed tomography (CT) of the chest revealed 8.6 x 8.5 cm mass in the right breast with surrounding skin thickening and right axillary lymphadenopathy(Figure 2) . Magnetic resonance imaging (MRI) of head revealed 1.8 x 2.1 cm enhancing left cerebellar lesion with adjacent vasogenic edema and mass effect on the 4th ventricle(Figure3, Figure 4). Nuclear medicine bone scan was significant for a single osseous metastatic lesion in the left femoral neck. Needle biopsy of the breast tissue confirmed the diagnosis of poorly differentiated invasive ductal carcinoma which was ER-, PR- and Her-2/neu - with Ki-67(proliferative index) immunostaining positive in 35% of tumor cells. BRCA-2 gene testing was negative. Patient underwent multiple cycles of stereotactic radiosurgery to the brain and Pembrolizumab-Gemcitabine-Carboplatin chemotherapy. Follow-up at 15 months with CT of chest, abdomen and pelvis revealed reduction in size of primary breast mass and right axillary lymphadenopathy but developed 7 new hepatic lesions and abdominal lymphadenopathy. The needle biopsy of the liver showed metastatic lesion consistent with primary breast cancer which is triple receptor negative. She continues to receive chemotherapy with close follow-up.

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Justine Chinnappan involved in acquisition, draft, and review. Huda Marcus involved in acquisition, draft, and review. Thair Dawood involved in conception and review. Ghassan Bachuwa involved in review.

DATA AVAILABILITY STATEMENT:

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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