Pulmonary Metastasis of a Gigantic Cystosarcoma Phyllodes of the Breast

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To the Editor: Phyllodes tumors are rare fibroepithelial malignancies of the breast and account for <1% of all malignant breast tumors.[1] It is difficult to distinguish from fibroadenomas, while malignant cystosarcoma phyllodes can grow in size quickly and metastasize early.[2] Gigantic cystosarcoma phyllodes of the breast is very rare, thus limiting our understanding of the disease and influencing diagnostic and management outcomes. Here, we reported a case of pulmonary metastasis of a gigantic cystosarcoma phyllodes of the breast with a maximum diameter of nearly 15 cm.

A 45-year-old woman was admitted to the hospital with a tumor in the left breast that was discovered one year earlier and had been rapidly increasing in size accompanied by local redness and swelling for two months. Physical examination disclosed obvious asymmetry on the breast without nipple retraction and nipple discharge or breast skin pitting resembling an orange peel. The left breast could be palpated to feel a large lump, which almost occupied the whole breast [Figure 1a]. There were no palpable masses felt on the right breast and no axillary lymph node enlargement on either side. The transthoracic echocardiography was performed [Figure 1b], and contrast-enhanced chest computed tomography (CT) revealed a vague glass nodule in the lower lingual segment of the upper right lung [Figure 1c]. The positron emission tomography/CT showed a gigantic cystic malignant mass [Figure 1d]. The examination of tumor markers showed concentrations of CAT24 at 9.30 U/ml and neuron-specific enolase at 22.05 ng/ml. The biopsy of the left breast was performed under ultrasound guidance, and the pathological finding indicated a malignant tumor of mesenchymal origin, otherwise known as a gigantic cystosarcoma phyllodes [Figure 1e]. Immunohistochemical analysis showed local pan-cytokeratin (+), vimentin (+), P63 (−), cytokeratin 516 (−), CD34 (+), few scattering in the CD68 (+), Ki-67: 50%, the local smooth muscle actin (+), the local S-100 (+), estrogen receptor (−), progesterone receptor (−), E-cadherin (−), dosmin (−), actin (+), the local CD10 (+), and CD117 (−).

Cystosarcoma phyllodes of the breast may occur in women of any age group from puberty to menopause.[3] Its early clinical manifestations were painless, with presentation of solitary masses mostly in the left breast and commonly in the upper outer quadrant of the breast. The mass could increase rapidly during a short time, and the enlarged mass could occupy most of the breast or even the whole breast. Because cystosarcoma phyllodes of the breast often has no indirect signs of breast malignancy, it is often misdiagnosed as breast fibroadenoma or giant fibroadenoma.[4] Breast fibroadenoma and phyllodes sarcoma are often difficult to distinguish in ultrasound; however, the unclear tumor boundary, uneven internal density or no echo area, and rich blood flow in Doppler ultrasound are suggestive for malignancy. Nonetheless, the final diagnosis should depend on the pathological examination of surgical specimens.[3] Cystosarcoma phyllodes of the breast, mainly through hematogenous metastasis, is mostly transferred to the lung and bone, with rare involvement of the local lymph nodes.[3] Since cystosarcoma phyllodes of the breast does not have a true capsule and is highly invasive, it is not easy to excise. Therefore, most researchers recommend radical mastectomy, including total resection of the ectopectoralis fascia.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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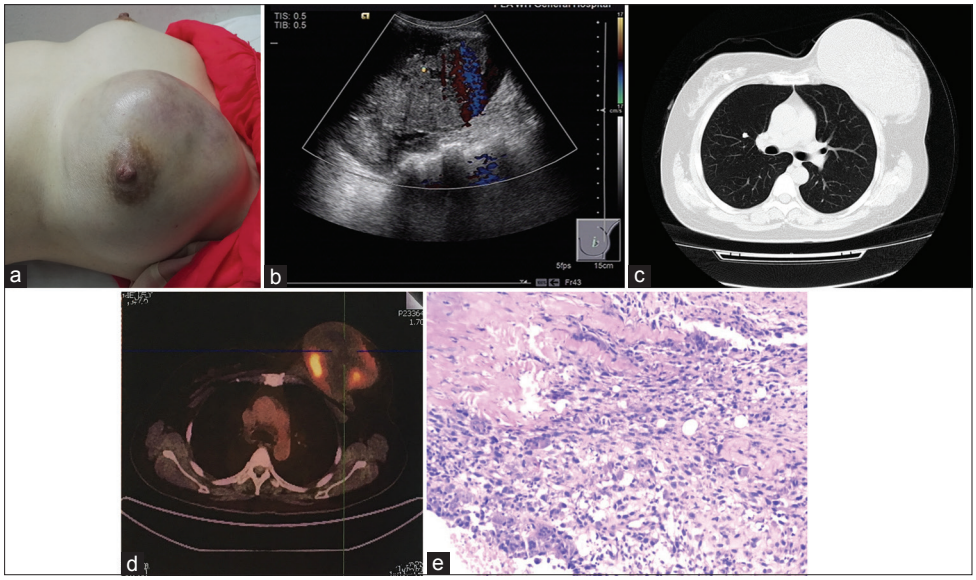

Figure 1: A gigantic cystosarcoma phyllodes of the breast in a 45-year-old female. (a) The tumor in the left breast showed that the surface was irregular, stiff, and had poor mobility, while the boundary was not clear and accompanied by local redness and fever. (b) The transthoracic echocardiography showed the mixed echogenic mass in the left breast containing solid and cystic components, approximately 14.7 cm × 12.5 cm in size. (c) Contrast-enhanced chest CT revealed a gigantic cystic solid lesion in the left breast involving the left ectopectoralis and a small, vague glass nodule in the lower lingual segment of the upper right lung. (d) PET/CT showed the gigantic cystic solid lesion CT attenuation measurement was 14–27 HU, and the solid part of the radioactive intake increased (SUV_{max} was 9.7). (e) Histopathology revealed that the mass was considered as malignant tumor of mesenchymal origin, otherwise known as gigantic cystosarcoma phyllodes (Haematoxylin Eosin staining, ×400). CT: Computed tomography; PET: Positron emission tomography; SUV_{max}: Maximum standardized uptake value.

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