Interesting Image

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Pyomyositis as Presentation of Chemoport-related Infection in Breast Carcinoma: ^{18}F-FDG PET/CT Findings

Meme Karsinomunda Kemoport ile İlişkili Enfeksiyon Olarak Piyomiyozit: ^{18}F-FDG PET/BT Bulguları

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Abstract

A Chemoport is frequently utilized in oncological patients for administering chemotherapy. However, inadequate care can lead to various infectious and non-infectious complications. Infection commonly presents as a local infection that can lead to life-threatening septicemia. Early diagnosis and intervention are necessary to reduce morbidity and mortality. We report a patient with breast cancer who underwent ^{18}F-fluorodeoxyglucose positron (^{18}F-FDG) positron emission tomography/computed tomography (PET/CT) due to suspicion of metastatic disease. ^{18}F-FDG-PET/CT revealed pyomyositis involving multiple skeletal muscles and septic emboli in the lungs and identified the chemoport as a possible source of infection. The infection source was confirmed and the patient responded to anti-microbiological therapy.

Keywords: Chemoport-related infection, breast cancer, ^{18}F-FDG PET/CT, pyomyositis, methicillin-resistant staphylococcus aureus

Öz

Kemoterapi portu, onkolojik hastalarda kemoterapi uygulamak için sıklıkla kullanılır. Ancak, yetersiz bakım çeşitli enfeksiyöz ve enfeksiyöz olmayan komplikasyonlara yol açabilir. Enfeksiyon genellikle lokal bir enfeksiyon olarak ortaya çıkar ve bazen yaşamı tehdit eden septisemiye yol açabilir. Morbidite ve mortaliteyi azaltmak için erken tanı ve müdahale gereklidir. Metastatik hastalık şüphesiyle ^{18}F-florodeoksiglukoz (^{18}F-FDG) pozitron emisyon tomografisi/bilgisayarlı tomografi (PET/BT)'ye giren bir meme kanseri hastası bildirilmiştir. ^{18}F-FDG PET/BT ile çok sayıda iskelet kasını tutan piyomiyozit ve akciğerlerde septik emboli ortaya kondu ve kemoport olası bir enfeksiyon kaynağı olarak tanımlandı. Enfeksiyon kaynağı doğrulandı ve hasta anti-mikrobiyal tedaviye yanıt verdi.

Anahtar kelimeler: Kemoport ile ilişkili enfeksiyon, meme kanseri, ^{18}F-FDG PET/BT, piyomiyozit, metisiline dirençli staphylococcus aureus

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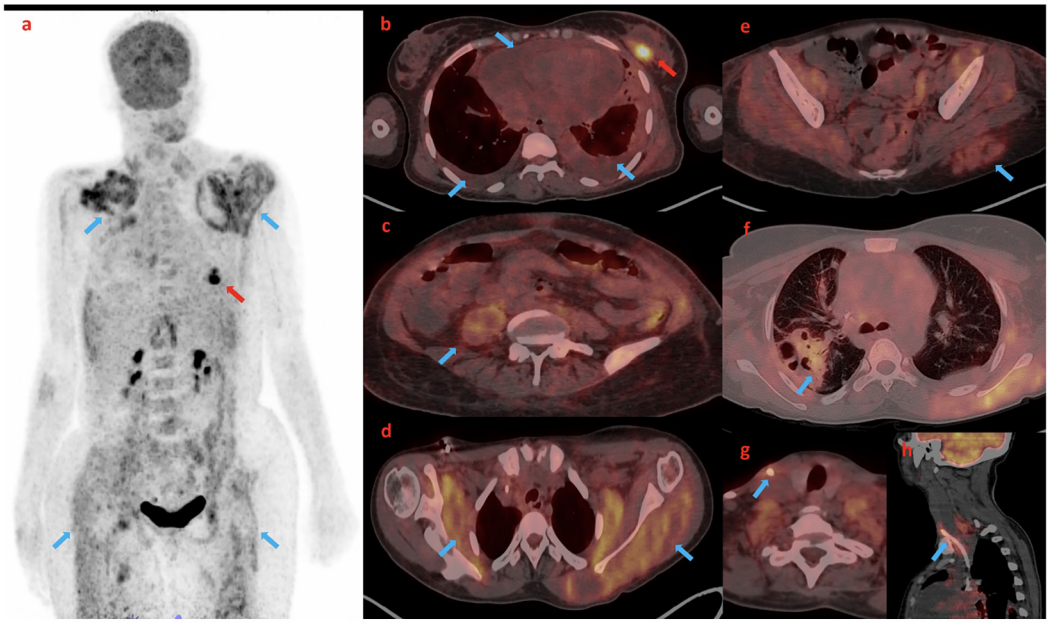

Figure 1.
A 23-year-old female presented with a left breast lump associated with nipple discharge. She had a history of lumpectomy six months ago (histopathology was not available). Mammography revealed a lump in the left breast. A core biopsy confirmed infiltrating ductal carcinoma, grade III (Ki-67 index: 70-80%). Clinical staging was CT4bN1M0. A Chemoport was placed for neoadjuvant chemotherapy. The treatment plan consisted of four cycles of Epirubicin+Cyclophosphamide, followed by four cycles of docetaxel, and subsequent surgery. The patient remained asymptomatic during the chemotherapy regimens. She developed fever, cough, difficulty breathing, chills, and rigors four days after the last dose of docetaxel. Bilateral crepitations were observed. Chest X-ray revealed lung lesions with pericardial effusion. ^{18}F-fluorodeoxyglucose positron (^{18}F-FDG) positron emission tomography/computed tomography (PET/CT) maximum intensity projection image (a) shows ^{18}F-FDG-avidity in the left breast region (red arrow). Multiple areas of increased uptake are noted around the shoulders and both thighs (blue arrow). Axial Fused ^{18}F-FDG PET/CT image (b) revealed an ^{18}F-FDG-avid lesion in the left breast (red arrow) with pericardial effusion and bilateral pleural effusion (blue arrow), ^{18}F-FDG-avid hypodense collection in the right psoas muscle (c). Similar heterogeneous density bulky muscles were noted in the bilateral periscapular region (d), bilateral iliopsoas, right gluteal muscles, and subcutaneous region of the left gluteal region (e). A lung abscess with an air-fluid level is noted in the right lower lobe (f). Linear ^{18}F-FDG avidity was noted along the catheter line (g, h). Pus was found along the catheter line. Aspiration Cytology of the Scapular Muscle revealed Methicillin-resistant Staphylococcus aureus. The Chemoport was removed. The broad-spectrum antibiotics Meropenem and Teicoplanin were initiated. She responded within 24 hours with improvement in symptoms.

An implantable chemoport device is used to administer chemotherapies with the aim of reducing the need for frequent venipunctures. Common complications include thrombosis, catheter obstruction, extravasation, catheter migration, and catheter fracture infection (1,2,3,4). These conditions may be associated with significant morbidity and mortality. The incidence of central venous access port-related infection ranges from 0.21 to 0.66 per 1000 catheter days (3,5). Hematogenous seeding may cause endocarditis, suppurative thrombosis, osteomyelitis, and metastatic site infections (4). *Staphylococcus*, *Gram-negative bacilli*, and Candida are the predominant pathogens (4,5). Although rare, extensive pyomyositis can also occur (6). General treatment principles involve blood and catheter cultures, initiating empirical intravenous antimicrobial therapy, device removal if clinically indicated, and tailoring the antimicrobial spectrum based on culture results (4).

Ethics

Informed Consent: Informed consent was obtained.

Footnotes

Authorship Contributions

Concept: V.S., M.O., Design: V.S., D.S., N.K., M.O., S.G., Data Collection or Processing: V.S., D.S., N.K., M.O., S.G., Analysis or Interpretation: V.S., D.S., N.K., M.O., S.G., Literature Search: V.S., M.O., Writing: V.S., M.O.

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