

Solitary biceps muscle metastasis from neuroendocrine breast tumor

Francesco Celotto MD¹  | Saveria Tropea MD, PhD² | Marco Rastrelli MD^{1,2} |
Tania Saibene MD³ | Guglielmo Gazzetta MD³ | Maria Vittoria Dieci MD, PhD⁴ |
Antonio Scapinello MD⁵ | Silvia Michieletto MD³

¹Department of Surgery, Oncology and Gastroenterology, University of Padova, Padua, Italy

²Surgical Oncology Unit, Veneto Institute of Oncology IOV - IRCCS, Padua, Italy

³Department of Breast Surgery, Veneto Institute of Oncology IOV - IRCCS, Padua, Italy

⁴Division of Medical Oncology 2, Veneto Institute of Oncology IOV - IRCCS, Padua, Italy

⁵Pathology Unit, Veneto Institute of Oncology IOV - IRCCS, Padua, Italy

Correspondence: Francesco Celotto. Department of Surgery, Oncology and Gastroenterology, University of Padova, 35128 Padua, Italy.
Email: celotto.francesco92@gmail.com

A 69-year-old woman presented to our follow-up clinic with a soft palpable mass of the right arm. In 2012, she underwent quadrantectomy, chemotherapy, and radiotherapy, for a grade II, T2N0M0, multifocal, infiltrating ductal breast carcinoma. Since then, the patient has been treated with adjuvant aromatase inhibitor. The follow-up until April 2019 was negative, when the mass appear in the right arm, so she underwent ultrasound and magnetic resonance imaging (MRI) of the right arm. A solid lesion in the context of the biceps brachii muscle was found. In August 2019, the lesion was biopsied and the tumoral tissue was compatible with a neuroendocrine neoplasm localization (synaptophysin (SP) and chromogranin (CG) diffuse positive) of mammary origin, expressing estrogen (ER) and progesterone (PR) receptors. The revision of the histopathological samples of the 2012 breast lesion showed a neoplasm with evidence of diffuse expression of SP, partially of CG, and widespread ER and PR receptors. A diagnosis of a grade 2 neuroendocrine tumor was made. The patient then performed a ⁶⁸Gallium-labeled DATATOC PET-CT which showed that the mass expresses Somatostatin receptors (Figure 1).

The patient underwent surgery (Figure 2), and the mass, at the final pathology, was a metastasis from neuroendocrine tumor of breast origin; in particular, it expressed SP and CG, respectively, in

99% and 50% of the sample and it was ER and PG positive. (Figure 3) After surgery, the patient underwent local radiotherapy.

Primary neuroendocrine neoplasm of the breast (NENB) is a rare but recognized subtype of breast cancer. The NENB accounts for less than 1% of breast cancers, and it is considered more aggressive compared to invasive ductal mammary carcinoma, with a debated poor prognosis. The metastatic potential of the NENB is not yet defined due to the few cases present in the literature, but some retrospective studies showed that NENBs are more aggressive and more metastatic than nonspecial breast cancer. With regard to muscular tissue metastasis from breast cancer, they are very rare, thanks to many factors like contractile activity, local alterations in PH, accumulation of metabolites, and local temperature.

When metastatic disease from neuroendocrine neoplasm of the breast is suspected, whole body imaging is mandatory, and a biopsy of the metastatic site would be useful to confirm the diagnosis. Surgery should be pursued if a R0 resection is feasible and when there is no evidence of multiple localization.

ORCID

Francesco Celotto  <https://orcid.org/0000-0002-1881-0605>

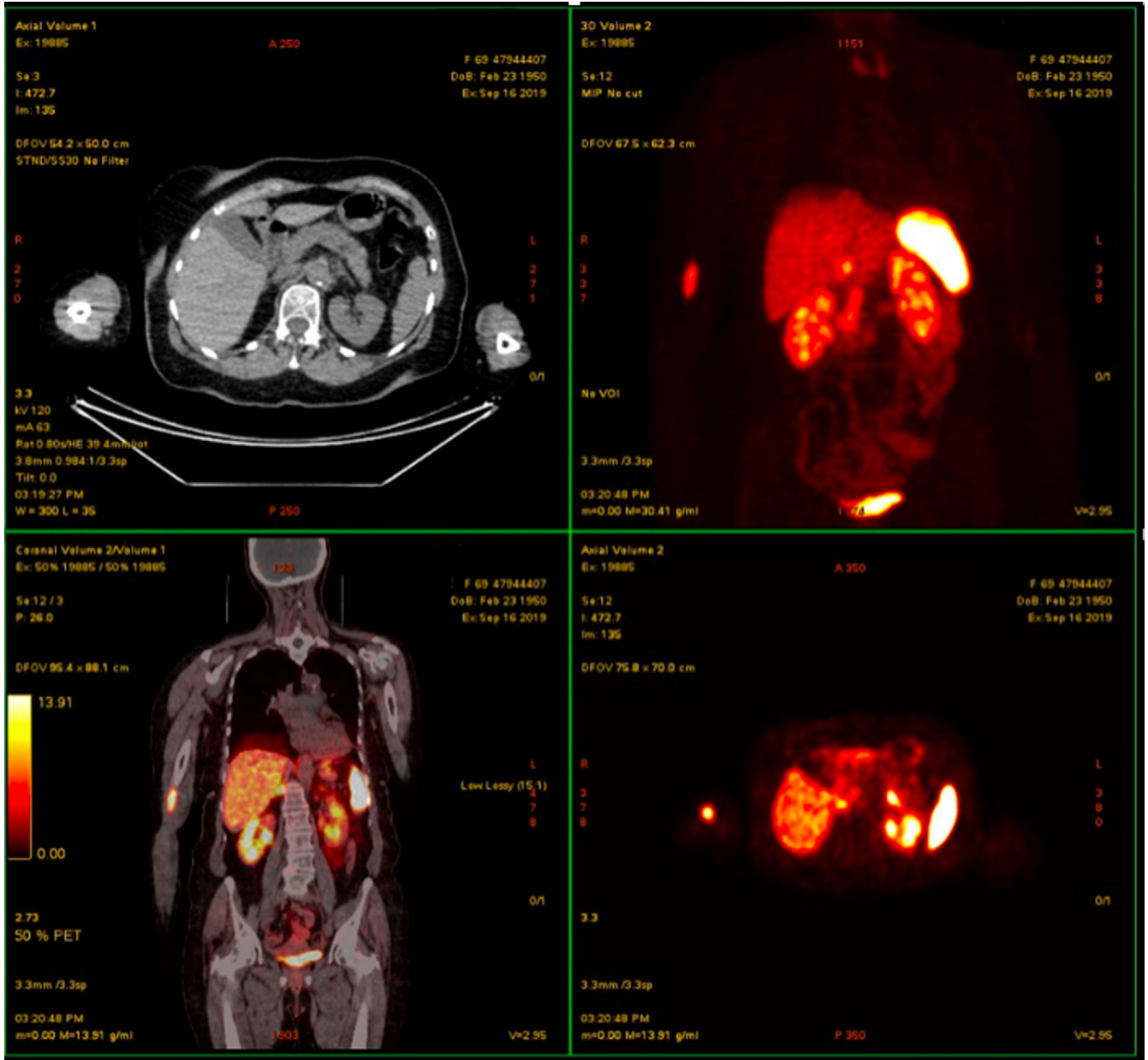


FIGURE 1 A110 MBq Ge-68 Dotatoc PET-CT [Color figure can be viewed at wileyonlinelibrary.com]

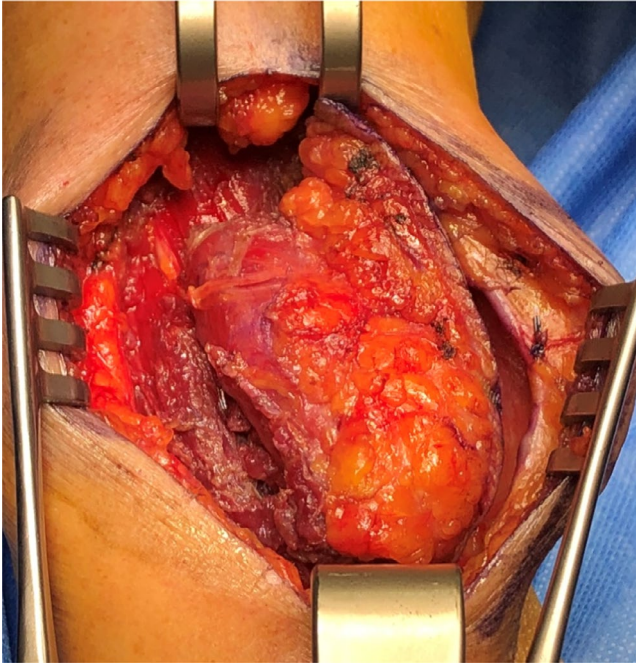


FIGURE 2 Intraoperative image of the right arm mass [Color figure can be viewed at wileyonlinelibrary.com]

FIGURE 3 (A) Hematoxylin-Eosin staining, (B) Tumor cells are positive to estrogen, (C) Tumor cells are positive to chromogranine, (D) Tumor cells are positive to synaptophysin [Color figure can be viewed at wileyonlinelibrary.com]

