Society of Interventional Oncology

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June 14, 2019
NCCN Guidelines Panel: Breast Cancer

On behalf of the Society of Interventional Oncology, we respectfully request the NCCN Breast Cancer Guideline panel to review the enclosed data for inclusion of locoregional therapies for metastatic breast cancer.

We suggest including a section for locoregional therapies for stage IV metastatic breast cancer. There is evidence that in selected patients and specific clinical scenarios locoregional therapies may benefit patients with metastatic breast cancer:

Clinical scenario 1: Painful bone metastases.

Bone metastasis occurs in 65—75% of patients with metastatic breast cancer. Image-guided cryotherapy, heat-based thermal ablation, and cementoplasty have been demonstrated to be effective and fast-acting methods to improve bone pain due to metastasis from a wide range of tumors, including breast cancer.

The following articles are relevant to this proposed change:

- Goetz, Matthew P., et al. "Percutaneous image-guided radiofrequency ablation of painful metastases involving bone: a multicenter study." Journal of Clinical Oncology 22.2 (2004): 300-306.
- Guenette, Jeffrey P., et al. "Solitary painful osseous metastases: correlation of imaging features with pain palliation after radiofrequency ablation—a multicenter American College of Radiology Imaging Network Study." Radiology 268.3 (2013): 907-915.
- Gangi, A., et al. "Quality improvement guidelines for bone tumour management." Cardiovascular and Interventional Radiology 33.4 (2010): 706-713.
- Filippiadis, Dimitrios, et al. "Metastatic bone disease from breast cancer: a review of minimally invasive techniques for diagnosis and treatment." European Journal of Orthopaedic Surgery and Traumatology 27.6 (2017): 729-736.

Clinical scenario 2: Oligometastatic disease.

Local ablative therapies for five or fewer sites of metastasis have been shown to provide longer progression free survival and may prolong overall survival. Hepatic resection and/or thermal ablation of hepatic oligometastatic disease can confer disease free intervals lasting several years and perhaps, more importantly, allow long intervals of disease control without chemotherapy. This is particularly beneficial in patients not tolerating systemic therapy.

The following articles are relevant to this proposed change:

- Sadot, Eran, et al. "Hepatic resection or ablation for isolated breast cancer liver metastasis: a case-control study with comparison to medically treated patients." Annals of surgery 264.1 (2016): 147.
- Palma, D. A., et al. "Stereotactic ablative radiation therapy for the comprehensive treatment of oligometastatic tumors (SABR-COMET): results of a randomized trial." International Journal of Radiation Oncology• Biology• Physics 102.3 (2018): S3-S4.
- Barral, M., et al. "Percutaneous thermal ablation of breast cancer metastases in oligometastatic patients." Cardiovascular and interventional radiology 39.6 (2016): 885-893.

Clinical scenario 3: Liver-dominant hepatic metastasis refractory to systemic therapy.

Liver metastasis commonly occurs in breast cancer patients and is associated with poorer oncologic outcomes. Liver tumors may cause abdominal pain or result in compression of the portal vein or obstruction of bile ducts. In selected patients who are not eligible for resection or ablation, transarterial therapies such as chemoembolization and radioembolization have demonstrated radiologic responses that translate to prolonged patient survival. Combining liver-directed treatments in the management of metastatic breast cancer with liver-only or liver-dominant disease can provide longer disease control while delaying the need to change to another line of systemic therapy. Also, in patients with hormonally responsive breast cancer and new-onset liver metastases, transarterial locoregional therapy can delay the initiation of systemic chemotherapy and benefit the patient's quality of life.

The following articles are relevant to this proposed change:

- Deipolyi, Amy R., et al. "Association of PI3K Pathway Mutations with Early Positron-Emission Tomography/CT Imaging Response after Radioembolization for Breast Cancer Liver Metastases: Results of a Single-Center Retrospective Pilot Study." Journal of Vascular and Interventional Radiology 29.9 (2018): 1226-1235.
- Haug, Alexander R., et al. "18F-FDG PET/CT predicts survival after radioembolization of hepatic metastases from breast cancer." Journal of Nuclear Medicine 53.3 (2012): 371-377.
- Vogl, Thomas J., et al. "Transarterial chemoembolization (TACE) with mitomycin C and gemcitabine for liver metastases in breast cancer." European radiology 20.1 (2010): 173-180.

We would like to thank the NCCN panel members for their time and effort in reviewing this submission.

Sincerely,

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