

NEW HORIZONS IN HER2+ BREAST CANCER

PHARMACIST-FOCUSED STRATEGIES AND INSIGHTS

References and Suggested Reading

- Awada A, Colomer R, Inoue K, et al. Neratinib plus paclitaxel vs trastuzumab plus paclitaxel in previously untreated metastatic ERBB2-positive breast cancer: the NEfERT-T randomized clinical trial. *JAMA Oncol.* 2016;2(12):1557–1564.
- Birrer MJ, Moore KN, Betella I, et al. Antibody-drug conjugate-based therapeutics: state of the science. *J Natl Cancer Inst.* 2019;111(6):538–549.
- Drugs@FDA: FDA-Approved Drugs. Ado-trastuzumab emtansine Prescribing Information. U.S. Food and Drug Administration website. May 2019.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/125427s105lbl.pdf. Accessed March 2020.
- Drugs@FDA: FDA-Approved Drugs. Fam-trastuzumab deruxtecan-nxki Prescribing Information. U.S. Food and Drug Administration website. December 2019.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/761139s000lbl.pdf. Accessed March 2020.
- Drugs@FDA: FDA-Approved Drugs. Lapatinib Prescribing Information. U.S. Food and Drug Administration website. December 2018.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/022059s024lbl.pdf. Accessed March 2020.
- Drugs@FDA: FDA-Approved Drugs. Neratinib Prescribing Information. U.S. Food and Drug Administration website. February 2020.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/208051s005s006lbl.pdf. Accessed March 2020.
- Drugs@FDA: FDA-Approved Drugs. Pertuzumab Prescribing Information. U.S. Food and Drug Administration website. January 2020.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2020/125409s124lbl.pdf. Accessed March 2020.
- Drugs@FDA: FDA-Approved Drugs. Trastuzumab Prescribing Information. U.S. Food and Drug Administration website. November 2018.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/103792s5345lbl.pdf. Accessed March 2020.
- Dzimitrowicz H, Berger M, Vargo C, et al. T-DM1 activity in metastatic human epidermal growth factor receptor 2-positive breast cancers that received prior therapy with trastuzumab and pertuzumab. *J Clin Oncol.* 2016;34(29):3511–3517.
- Freedman RA, Gelman RS, Anders CK, et al. TBCRC 022: a phase II trial of neratinib and capecitabine for patients with human epidermal growth factor receptor 2-positive breast cancer and brain metastases. *J Clin Oncol.* 2019;37(13):1081–1089.
- Giordano SH, Temin S, Chandarlapaty S, et al. Systemic therapy for patients with advanced human epidermal growth factor receptor 2-positive breast cancer: ASCO Clinical Practice Guideline Update. *J Clin Oncol.* 2018;36:2736–2740.
- Gori S, Rimondini S, De Angelis V, et al. Central nervous system metastases in HER-2 positive metastatic breast cancer patients treated with trastuzumab: incidence, survival, and risk factors. *Oncologist.* 2007;12(7):766–773.
- Iwata H, Tamura K, Doi T, et al. Trastuzumab deruxtecan (DS-8201a) in subjects with HER2-expressing solid tumors: long-term results of a large phase 1 study with multiple expansion cohorts.

NEW HORIZONS IN HER2+ BREAST CANCER

PHARMACIST-FOCUSED STRATEGIES AND INSIGHTS

Abstract 2501. Presented at: American Society of Clinical Oncology Annual Meeting; May 31–June 5, 2018; Chicago, Illinois.

- Krop IE, Kim SB, González-Martín A, et al. Trastuzumab emtansine versus treatment of physician's choice for pretreated HER2-positive advanced breast cancer (TH3RESA): a randomised, open-label, phase 3 trial. *Lancet Oncol.* 2014;15(7):689–699.
- Krop IE, Lin NU, Blackwell K, et al. Trastuzumab emtansine (T-DM1) versus lapatinib plus capecitabine in patients with HER2-positive metastatic breast cancer and central nervous system metastases: a retrospective, exploratory analysis in EMILIA. *Ann Oncol.* 2015;26(1):113–119.
- Krop IE, Saura C, Yamashita T, et al. [Fam-] trastuzumab deruxtecan (T-DXd; DS-8201a) in subjects with HER2-positive metastatic breast cancer previously treated with T-DM1: a phase 2, multicenter, open-label study (DESTINY-Breast01). Abstract GS1-03. Presented at: San Antonio Breast Cancer Symposium; December 11, 2019; San Antonio, Texas.
- Meric-Bernstam F, Johnson AM, Dumbrava EE, et al. Advances in HER2-targeted therapy: novel agents and opportunities beyond breast and gastric cancer. *Clin Cancer Res.* 2019;25(7):2033–2041.
- McLarty K, Cornelissen B, Scollard DA, et al. Associations between the uptake of ¹¹¹In-DTPA-trastuzumab, HER2 density and response to trastuzumab (Herceptin) in athymic mice bearing subcutaneous human tumour xenografts. *Eur J Nucl Med Mol Imaging.* 2009;36(1):81–93.
- Modi S, Saura C, Yamashita T, et al. Trastuzumab deruxtecan in previously treated HER2-positive breast cancer. *N Engl J Med.* 2020;382(7):610–621.
- Murthy RK, Loi S, Okines A, et al. Tucatinib, trastuzumab, and capecitabine for HER2-positive metastatic breast cancer [published correction appears in *N Engl J Med.* 2020;382(6):586]. *N Engl J Med.* 2020;382(7):597–609.
- Murthy R, Loi S, Okines A, et al. Tucatinib vs placebo, both combined with capecitabine and trastuzumab, for patients with pretreated HER2-positive metastatic breast cancer with and without brain metastases (HER2CLIMB). Abstract GS1-01. Presented at: San Antonio Breast Cancer Symposium; December 11, 2019; San Antonio, Texas.
- National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Breast Cancer. Version 2.2020; February 5, 2020. NCCN website. https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf. Accessed March 2020.
- National Institutes of Health/National Cancer Institute. Cancer stat facts: female breast cancer. NIH website. <https://seer.cancer.gov/statfacts/html/breast.html>. Accessed March 2020.
- NDA/BLA Multi-disciplinary Review and Evaluation {BLA 761139}. U.S. Food and Drug Administration website. August 2019. https://www.accessdata.fda.gov/drugsatfda_docs/nda/2019/761139Orig1s000MultidisciplineR.pdf. Accessed March 2020.
- Ogitani Y, Hagihara K, Oitate M, et al. Bystander killing effect of DS-8201a, a novel anti-human epidermal growth factor receptor 2 antibody-drug conjugate, in tumors with human epidermal growth factor receptor 2 heterogeneity. *Cancer Sci.* 2016;107(7):1039–1046.
- Parise CA, Bauer KR, Brown MM, et al. Breast cancer subtypes as defined by the estrogen receptor (ER), progesterone receptor (PR), and the human epidermal growth factor receptor 2 (HER2) among women with invasive breast cancer in California, 1999–2004. *Breast J.* 2009;15(6):593–602.
- Rugo HS, Im SA, Cardoso F, et al. Phase 3 SOPHIA study of margetuximab + chemotherapy vs trastuzumab + chemotherapy in patients with HER2+ metastatic breast cancer after prior anti-HER2 therapies: second interim overall survival analysis. Abstract GS1-02. Presented at: San Antonio Breast Cancer Symposium; December 11, 2019; San Antonio, Texas.

NEW HORIZONS IN HER2+ BREAST CANCER

PHARMACIST-FOCUSED STRATEGIES AND INSIGHTS

Swain SM, Baselga J, Kim SB, et al. Pertuzumab, trastuzumab, and docetaxel in HER2-positive metastatic breast cancer. *N Engl J Med*. 2015;372(8):724–734.

Swain SM, Miles D, Kim S-B, et al. End-of-study analysis from the phase III, randomized, double-blind, placebo-controlled CLEOPATRA study of first-line pertuzumab, trastuzumab, and docetaxel in patients with HER2-positive metastatic breast cancer. Abstract 1020. Presented at: 2019 ASCO Annual Meeting; June 2, 2019; Chicago, Illinois.

Tamura K, Tsurutani J, Takahashi S, et al. Trastuzumab deruxtecan (DS-8201a) in patients with advanced HER2-positive breast cancer previously treated with trastuzumab emtansine: a dose-expansion, phase 1 study [published correction appears in *Lancet Oncol*. 2019;20(6):e293]. *Lancet Oncol*. 2019;20(6):816–826.

Verma S, Miles D, Gianni L, et al. Trastuzumab emtansine for HER2-positive advanced breast cancer [published correction appears in *N Engl J Med*. 2013;368(25):2442]. *N Engl J Med*. 2012;367(19):1783–1791.