Dissecting the Decision: Clinical and Nursing Investigators Provide Practical Perspectives on Key Issues in Cancer Care Part 2 — HER2-Positive Breast Cancer

> Thursday, March 18, 2021 5:00 PM – 6:00 PM ET

Faculty Jamie Carroll, APRN, MSN, CNP Sara Hurvitz, MD



Faculty



Jamie Carroll, APRN, MSN, CNP Mayo Clinic Rochester, Minnesota



Sara Hurvitz, MD Professor of Medicine David Geffen School of Medicine at UCLA Director, Breast Cancer Clinical Research Program Co-Director, Santa Monica-UCLA Outpatient Oncology Practice Santa Monica, California



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Dr Love — Disclosures

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Research To Practice CME Planning Committee Members, Staff and Reviewers

Planners, scientific staff and independent reviewers for Research To Practice have no relevant conflicts of interest to disclose.



Dr Carroll — Disclosures

No relevant conflicts of interest to disclose.



Dr Hurvitz — Disclosures

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Paid Travel	Lilly
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We Encourage Clinicians in Practice to Submit Questions



Feel free to submit questions now before the program begins and throughout the program.



Familiarizing Yourself with the Zoom Interface How to answer poll questions



When a poll question pops up, click your answer choice from the available options. Results will be shown after everyone has answered.



ONCOLOGY TODAY WITH DR NEIL LOVE

Newly Approved Agents in HER2-Positive Metastatic Breast Cancer



DR MARK PEGRAM STANFORD UNIVERSITY SCHOOL OF MEDICINE









Oncology Today with Dr Neil Love —

(15) (30)

Cases from the Community: Investigators Discuss the Role of PARP Inhibition in the Care of Actual Patients with Ovarian Cancer

> Saturday, March 20, 2021 4:00 PM – 5:00 PM ET

Faculty

Susana Banerjee, MBBS, MA, PhD Richard T Penson, MD, MRCP Shannon N Westin, MD, MPH



Meet The Professor Optimizing the Selection and Sequencing of Therapy for Patients with Renal Cell Carcinoma

Thursday, March 25, 2021 5:00 PM – 6:00 PM ET

> Faculty Robert J Motzer, MD



Meet The Professor Management of Chronic Lymphocytic Leukemia

Monday, March 29, 2021 5:00 PM – 6:00 PM ET

Faculty Philip A Thompson, MB, BS



Meet The Professor Immunotherapy and Novel Agents in Gynecologic Cancers

> Monday, April 5, 2021 5:00 PM – 6:00 PM ET

Faculty Bradley J Monk, MD



Ask the Expert: Clinical Investigators Provide Perspectives on the Management of Renal Cell Carcinoma

> Tuesday, April 6, 2021 12:00 PM – 1:00 PM ET

Faculty Sumanta K Pal, MD



Meet The Professor Optimizing the Selection and Sequencing of Therapy for Patients with Advanced Gastrointestinal Cancers

> Thursday, April 8, 2021 5:00 PM – 6:00 PM ET

Faculty Professor Dirk Arnold, MD, PhD



Thank you for joining us!

NCPD credit information will be emailed to each participant within 3 business days.



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Alan B Astrow, MD Chief, Hematology/Medical Oncology NewYork-Presbyterian Brooklyn Methodist Hospital Professor of Clinical Medicine Weill Cornell Medical College Brooklyn, New York



Yanjun Ma, MD Tennessee Oncology Murfreesboro, Tennessee



Philip Glynn, MD Director, Medical Oncology Mercy Medical Center Springfield, Massachusetts



Laurie Matt-Amaral, MD, MPH Attending Physician Cleveland Clinic Akron General Medical Center Akron, Ohio



Atif Hussein, MD, MMM Program Director Hematology/Oncology Fellowship Medical Director, Oncology Clinical Research

Chairman, Cancer Committee Memorial Healthcare System Clinical Associate Professor, Florida International University Herbert Wertheim College of Medicine Hollywood, Florida



Estelamari Rodriguez, MD, MPH Voluntary Assistant Professor of Clinical Medicine Associate Director, Community Outreach Sylvester Comprehensive Cancer Center University of Miami Miller School of Medicine Miami, Florida



Agenda

Module 1: Breast Cancer 2021

• Dr Matt-Amaral: A 42-year-old premenopausal woman with ER-positive, HER2-positive, node-negative breast cancer

Module 2: Management of Localized Disease

• Dr Matt-Amaral: A 73-year-old woman with clinical T4 ER/PR-negative, HER2-positive breast cancer

Module 3: Sequencing of Agents for Metastatic Disease

- Dr Astrow: A 70-year-old woman with a 10-cm Grade III, ER/PR-negative, HER2-positive IDC and pleural metastases
- Dr Rodriguez: A 36-year-old woman with heavily pretreated ER/PR-positive, HER2-positive breast cancer and bone metastases

Module 4: Systemic Treatment of Brain Metastases

- Dr Ma: A 42-year-old Middle Eastern woman with HER2-positive breast cancer and brain metastases
- Dr Hussein: A 43-year-old woman with ER/PR-negative, HER2-positive breast cancer with brain metastasis
- Dr Glynn: A 60-year-old woman with malignant pericardial effusion



DATA + PERSPECTIVES Clinical Investigators Explore the Current and Future Management of ER-Positive Breast Cancer

> Wednesday, December 11, 2019 7:30 PM – 9:00 PM San Antonio, Texas

> > Moderator Neil Love, MD

> > > Faculty

Harold J Burstein, MD, PhD Matthew Goetz, MD Stephen RD Johnston, MA, PhD Joseph A Sparano, MD

Research To Practice® DATA + PERSPECTIVES Clinical Investigators Explore the Current and Future Management of Triple-Negative Breast Cancer

> Thursday, December 12, 2019 7:30 PM – 9:00 PM San Antonio, Texas

> > Moderator Neil Love, MD

> > > Faculty

Erika Hamilton, MD Professor Sherene Loi, MBBS, PhD Mark E Robson, MD Hope S Rugo, MD

> Research To Practice®

DATA + PERSPECTIVES Clinical Investigators Explore the Current and Future Management of HER2-Positive Breast Cancer

> Friday, December 13, 2019 7:30 PM – 9:00 PM San Antonio, Texas

> > Moderator Neil Love, MD

Faculty

Adam M Brufsky, MD, PhD Lisa A Carey, MD Sara Hurvitz, MD Martine J Piccart-Gebhart, MD, PhD

> Research To Practice®

Distribution of Breast Cancer Subtypes





DeSantis CE et al. CA Cancer J Clin 2016;66(1):31-42.

Case Presentation: A 42-year-old premenopausal woman with ER-positive, HER2-positive, node-negative breast cancer

- Mastectomy for ER-positive DCIS revealed a 1.3-cm, ER-positive, PR-negative, HER2-positive, node-negative IDC
- PMH: Depression
- Genetic testing: PMS2 VUS
- Patient is not interested in receiving adjuvant chemotherapy

Questions

- For which patients do you decide to use post-adjuvant neratinib?
- Any tips about how to manage the diarrhea?



Dr Laurie Matt-Amaral


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Case Presentation: A 73-year-old woman with clinical T4 ER/PR-negative, HER2-positive breast cancer



Dr Laurie Matt-Amaral

- Presents with clinical T4 breast cancer whole breast involved with peau d'orange and lymphadenopathy
 - Patient suffered a fall, experienced soreness afterwards, delayed seeking medical attention
- Neoadjuvant taxane/platinum plus dual anti-HER2 therapy

Question

• Which patients should be considered for post-neoadjuvant T-DM1 therapy?



A 60-year-old woman presents with a palpable 2.5-cm breast mass that on biopsy is diagnosed as an ER-negative, HER2positive infiltrating ductal carcinoma (IDC). Biopsy of a small axillary lymph node is positive. In general, the most common next step in this situation is...

- Surgery to remove the primary tumor and axillary dissection followed by systemic therapy
- 2. Neoadjuvant systemic therapy followed by surgery
- 3. Either a or b
- 4. Neither a nor b
- 5. I don't know



A patient with a HER2-positive IDC responds to neoadjuvant chemotherapy and trastuzumab/pertuzumab, but at surgery residual disease is detected. In general, the most common next treatment is...

- 1. Trastuzumab
- 2. Trastuzumab/pertuzumab
- 3. T-DM1
- 4. Any of the above
- 5. I don't know



Patients who receive post-adjuvant neratinib after chemotherapy/anti-HER2 therapy for HER2-positive localized breast cancer have a significant reduction in the risk of recurrence if the tumor is...

- 1. ER-positive
- 2. ER-negative
- 3. Both a and b
- 4. Neither a nor b
- 5. I don't know



FDA-Approved Agents for Early-Stage HER2-Positive BC

Agent	Setting	Pivotal trial(s)	Regimens	Year approved	
		NSABP-31	AC-T-placebo vs AC-T-H		
Tractuzumah	Adjuvant HER2+ EBC, N9831 AC-T vs AC-H v	AC-T vs AC-H vs AC-T-H	2006		
fi	first line	BCIRG 006	ACT vs ACT-H vs TC-H	2006	
		HERA	Observation vs trastuzumab		
Pertuzumab	Neoadjuvant HER2+, EBC	NeoSphere	TD vs PTD vs PT vs PD	2013	
Dortuzumah	Adjuvant HER2+ ERC		Chemotherapy plus trastuzumab	2017	
Pertuzuillab	Aujuvant HERZ+, EBC	AFTIINITT	plus pertuzumab vs placebo	2017	
Noratinih	Extended adjuvant	ExtoNET	Placebo ve poratinih	2017	
	treatment of HER2+ EBC	reatment of HER2+ EBC		2017	
T-DM1	Adjuvant HER2+ EBC with residual disease after neoadjuvant taxane and trastuzumab based treatment	KATHERINE	Trastuzumab vs T-DM1	2019	

AC-H = doxorubicin, cyclophosphamide, and trastuzumab; AC-T, doxorubicin, cyclophosphamide, and paclitaxel; AC-T-H, doxorubicin, cyclophosphamide, paclitaxel, and trastuzumab; H, trastuzumab; PD, pertuzumab and docetaxel; PT, trastuzumab and pertuzumab; PTD, pertuzumab,

trastuzumab, and docetaxel; TC, docetaxel and cyclophosphamide; TC-H, docetaxel, cyclophosphamide, and trastuzumab; TD, trastuzumab and docetaxel; THP, docetaxel, trastuzumab, and pertuzumab



Choong GM et al. CA Cancer J Clin 2020;70:355-374.

Trastuzumab Emtansine (T-DM1): Mechanisms of Action





KATHERINE Study Design

- cT1-4/N0-3/M0 at presentation (cT1a-b/N0 excluded)
- Centrally confirmed HER2-positive breast cancer
- Neoadjuvant therapy must have consisted of
 - Minimum of 6 cycles of chemotherapy
 - Minimum of 9 weeks of taxane
 - Anthracyclines and alkylating agents allowed
 - All chemotherapy prior to surgery
 - Minimum of 9 weeks of trastuzumab
 - Second HER2-targeted agent allowed
- Residual invasive tumor in breast or axillary nodes
- Randomization within 12 weeks of surgery

Stratification factors:

- Clinical presentation: Inoperable (stage cT4 or cN2–3) vs operable (stages cT1-3N0-1)
- Hormone receptor: ER or PR positive vs ER negative and PR negative/unknown
- Preoperative therapy: Trastuzumab vs trastuzumab plus other HER2-targeted therapy
- Pathological nodal status after neoadjuvant therapy: Positive vs negative/not done



Radiation and endocrine therapy per protocol and local guidelines

Geyer CE et al. SABCS 2018; Abstract GS1-10.



KATHERINE: Invasive Disease-Free Survival (IDFS) Outcomes

IDFS	T-DM1 (n = 743)	Trastuzumab (n = 743)
IDFS events 3-year IDFS	12.2% 88.3%	22.2% 77.0%
	HR = 0.50; <i>p</i> < 0.0001	
Distant recurrence		
3-year event-free rate	89.7%	83.0%
	HR = 0.6	50



Von Minckwitz G, et al. N Engl J Med 2019;380:617-28.

ATEMPT Study Schema





Courtesy of Sara M Tolaney, MD, MPH

ATEMPT: Clinically Relevant Toxicity

Clinically Relevant Toxicity	T-DM1 (n = 383) N (%)	TH (n = 114) N (%)
Grade ≥3 nonhematologic toxicity	37 (10%)	13 (11%)
Grade ≥2 neurotoxicity	42 (11%)	26 (23%)
Grade ≥4 hematologic toxicity	4 (1%)	0 (0%)
Febrile neutropenia	0 (0%)	2 (2%)
Any toxicity requiring dose delay	106 (28%)	30 (26%)
Any toxicity requiring early discontinuation	67 (17%)	7 (6%)
Total	176 (46%) P	53 (46%)

Tolaney S et al. SABCS 2019; Abstract GS1-05.



ExteNET Study Design



Primary endpoint:Invasive disease-free survival (iDFS)Secondary endpoints:DFS-DCIS, time to distant recurrence, distant DFS, CNS metastases, OS, safety



Martin et al. *Lancet Oncol* 2017;18(12):1688-700.

ExteNET: Five-Year Invasive Disease-Free Survival by Patient Population



Martin M et al. *Lancet Oncol* 2017;18(12):1688-700; Martin M et al. ESMO 2017;Abstract 1490.



Original Study

Final Efficacy Results of Neratinib in HER2-positive Hormone Receptor-positive Early-stage Breast Cancer From the Phase III ExteNET Trial

Arlene Chan,¹ Beverly Moy,² Janine Mansi,³ Bent Ejlertsen,⁴ Frankie Ann Holmes,⁵ Stephen Chia,⁶ Hiroji Iwata,⁷ Michael Gnant,⁸ Sibylle Loibl,⁹ Carlos H. Barrios,¹⁰ Isil Somali,¹¹ Snezhana Smichkoska,¹² Noelia Martinez,¹³ Mirta Garcia Alonso,¹⁴ John S. Link,¹⁵ Ingrid A. Mayer,¹⁶ Søren Cold,¹⁷ Serafin Morales Murillo,¹⁸ Francis Senecal,¹⁹ Kenichi Inoue,²⁰ Manuel Ruiz-Borrego,²¹ Rina Hui,²² Neelima Denduluri,²³ Debra Patt,²⁴ Hope S. Rugo,²⁵ Stephen R.D. Johnston,²⁶ Richard Bryce,²⁷ Bo Zhang,²⁷ Feng Xu,²⁷ Alvin Wong,²⁷ Miguel Martin,²⁸ for the ExteNET Study Group

Clin Breast Cancer 2021;21(1):80-91.e.7.



Continued Efficacy of Neratinib in Patients with HER2-Positive Early-Stage Breast Cancer: Final Overall Survival Analysis from the Randomized Phase 3 ExteNET Trial

Holmes FA et al. SABCS 2020;Abstract PD3-03





ITT (n = 2,840)

HR-positive/ \leq 1 year (n = 1,334)



Martin M et al. Lancet Oncol 2017;18(12):1688-700; Holmes FA et al. SABCS 2020;Abstract PD3-03.

CONTROL Trial: Strategies to Improve Neratinib Tolerability

Methods: Sequential single-arm interventions for patients receiving adjuvant therapy

- Cohort 1 (L): Loperamide (n = 137)
- Cohort 2 (BL): Budesonide + loperamide (n = 64)
- Cohort 3 (CL or CL-PRN): Colestipol + loperamide (n = 136) or colestipol + as-needed loperamide (n = 104)
- Cohort 4 (DE): Neratinib dose escalation; ongoing (n = 60)



Antidiarrheal Prophylaxis Reduces Diarrhea with Neratinib: CONTROL Trial



Chan et al, SABCS 2019; Chan at al, Lancet Oncol 2016; Hurvitz S, SABCS 2017

Courtesy of Sara M Tolaney, MD, MPH

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- Dr Glynn: A 60-year-old woman with malignant pericardial effusion



Case Presentation – Dr Astrow: A 70-year-old woman with history of mild dementia presents with a 10-cm Grade III, ER/PR-negative, HER2-positive IDC and pleural metastases



Dr Alan Astrow

- History of stroke and mild dementia
- Presents with 10 cm left breast mass
- PET-CT: supraclavicular, internal mammary, mediastinal, hilum nodes; hypermetabolic left pleuralbased metastases and a single left pulmonary nodule
- Treatment: THP x 12 weeks \rightarrow trastuzumab/pertuzumab to complete 1 year
- Follow-up PET-CT: complete resolution of lymphadenopathy and the pleural-based metastases
- Difficult for patient to come to clinic
 - Her medical problems contributed to decision to stop the treatment after a year

Question

• How would the faculty approach this situation? Should she still be on trastuzumab/pertuzumab? Should I switch her to T-DM1 or just leave her alone since she's doing well?



Case Presentation – Dr Rodriguez: A 36-year-old woman with heavily pretreated ER/PR-positive, HER2-positive breast cancer and bone metastases



Dr Estelamari Rodriguez

- Treated on Phase II PACE trial with fulvestrant plus palbociclib
 - Patient experienced disease progression with bone involvement
- Patient rechallenged with HER2-directed therapy due to concerns of persistent disease not identified in bone biopsy
 - T-DXd plus denosumab/zoledronic acid every 4 weeks
 - Tolerating treatment well

Questions

- What other treatment(s) could be considered at this time, and what are the potential adverse events that we should monitor for?
- When administering T-DXd, how do you evaluate for interstitial lung disease and do you do any routine imaging of the lung?
- Are there any data on the role of T-DXd in the setting of HER2 low metastatic breast cancer?



A Phase III trial evaluating the addition of tucatinib to trastuzumab/capecitabine for metastatic HER2-positive breast cancer resulted in an improvement in overall survival for all patients, including those with brain metastases.

- 1. Agree
- 2. Disagree
- 3. I don't know



The recently approved trastuzumab deruxtecan is classified as which type of anti-HER2 agent?

- 1. Monoclonal antibody
- 2. Antibody-drug conjugate
- 3. Small molecule tyrosine kinase inhibitor
- 4. I don't know



Trastuzumab deruxtecan carries a black box warning for...

- 1. QT interval prolongation
- 2. Interstitial lung disease
- 3. Cardiovascular events
- 4. I don't know



FDA Approves Tucatinib for Patients with HER2-Positive Metastatic Breast Cancer Press Release – April 17, 2020

"The Food and Drug Administration approved tucatinib in combination with trastuzumab and capecitabine, for adult patients with advanced unresectable or metastatic HER2-positive breast cancer, including patients with brain metastases, who have received one or more prior anti-HER2-based regimens in the metastatic setting.

Efficacy was demonstrated in the HER2CLIMB trial (NCT02614794) enrolling 612 patients with HER2-positive metastatic breast cancer who had prior treatment with trastuzumab, pertuzumab, and ado-trastuzumab emtansine. Patients received either tucatinib 300 mg twice daily plus trastuzumab and capecitabine (tucatinib arm, n = 410) or placebo plus trastuzumab and capecitabine (control arm, n = 202).

The primary endpoint was progression-free survival (PFS), assessed by a blinded independent central review, evaluated in the initial 480 randomized patients. The median PFS in patients receiving tucatinib was 7.8 months compared to 5.6 months for patients enrolled on the control arm (HR 0.54; *p* < 0.00001)."





Tesch ME, Gelmon KA. Drugs 2020;80:1811-30.



Tucatinib Mechanism of Action







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FEBRUARY 13, 2020

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Tucatinib, Trastuzumab, and Capecitabine for HER2-Positive Metastatic Breast Cancer

R.K. Murthy, S. Loi, A. Okines, E. Paplomata, E. Hamilton, S.A. Hurvitz, N.U. Lin, V. Borges, V. Abramson, C. Anders, P.L. Bedard, M. Oliveira, E. Jakobsen, T. Bachelot, S.S. Shachar, V. Müller, S. Braga, F.P. Duhoux, R. Greil, D. Cameron, L.A. Carey, G. Curigliano, K. Gelmon, G. Hortobagyi, I. Krop, S. Loibl, M. Pegram, D. Slamon, M.C. Palanca-Wessels, L. Walker, W. Feng, and E.P. Winer



FDA Approval of Trastuzumab Deruxtecan for Unresectable or Metastatic HER2-Positive Breast Cancer Press Release – December 20, 2019

"The Food and Drug Administration granted accelerated approval to fam-trastuzumab deruxtecan-nxki for patients with unresectable or metastatic HER2-positive breast cancer who have received two or more prior anti-HER2-based regimens in the metastatic setting.

Efficacy was investigated in DESTINY-Breast01 (NCT03248492), a multicenter, singlearm trial enrolling 184 female patients with HER2-positive, unresectable and/or metastatic breast cancer who had received two or more prior anti-HER2 therapies. Patients received fam-trastuzumab deruxtecan-nxki 5.4 mg/kg by intravenous infusion every 3 weeks until unacceptable toxicity or disease progression."

https://www.fda.gov/drugs/resources-information-approved-drugs/fda-approves-fam-trastuzumab-deruxtecan-nxki-unresectable-or-metastatic-her2-positive-breast-cancer



Trastuzumab Deruxtecan (DS-8201) Is a Novel ADC Designed to Deliver an Optimal Antitumor Effect

Trastuzumab deruxtecan is an ADC composed of 3 components:

- A humanized anti-HER2 IgG1 mAb with the same amino acid sequence as trastuzumab
- A topoisomerase I inhibitor payload, an exatecan derivative
- A tetrapeptide-based cleavable linker







Trastuzumab Deruxtecan's Membrane-Permeable Payload Can Attack Neighboring Cancer Cells (a Bystander Effect)



ADCC = antibody-dependent cellular cytotoxicity; HER2 = human epidermal growth factor receptor 2; Topo-1 = topoisomerase I.



1. Ogitani Y et al. Cancer Sci. 2016;107:1039–1046 . 2. Ogitani Y et al. Clin Cancer Res. 2016;22:5097–5108.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Trastuzumab Deruxtecan in Previously Treated HER2-Positive Breast Cancer

S. Modi, C. Saura, T. Yamashita, Y.H. Park, S.-B. Kim, K. Tamura, F. Andre, H. Iwata, Y. Ito, J. Tsurutani, J. Sohn, N. Denduluri, C. Perrin, K. Aogi,
E. Tokunaga, S.-A. Im, K.S. Lee, S.A. Hurvitz, J. Cortes, C. Lee, S. Chen, L. Zhang, J. Shahidi, A. Yver, and I. Krop, for the DESTINY-Breast01 Investigators*

N Engl J Med 2020;382(7):610-21.



DESTINY-Breast01: Response According to Tumor Size and Subgroup Analyses





DESTINY-Breast01 Trial: Adverse events with T-Dxd

Treatment-emergent Adverse Events in >15% of Patients^a



a Patients who received T-DXd 5.4 mg/kg.

- Serious TEAEs, 22.8% (drug related, 12.5%)
- TEAEs associated with discontinuation, 15.2% (drug related, 14.7%);
 the majority were due to pneumonitis/ILD (8.7%)

@ErikaHamilton9



Median	Inter time from t	the first info weeks (ra	Lung D usion of T-D ange, 6-76 v)isease Xd to onset veeks)	t of ILD was	s 27.6
Preferred Term, n (%)	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Any Grade/ Total
Interstitial lung disease	5 (2.7)	15 (8.2)	1 (0.5)	0	4 (2.2)	25 (13.6)

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Pneumonitis associated with T-Dxd

ILD in Phase 1/2 studies¹

	All-grade	Grade 5
All subjects N=665	9.9%	0.8%
Breast cancer, any dose N=510	10.6%	0.8%
Breast cancer, 5.4 mg/kg N=269	5.6%	0.4%

Conclusions

- Higher likelihood of developing ILD associated with¹:
 - Higher dose (26.4 mg/kg)
 - Japanese origin: Japanese patients 49% of N=665 sample
 - Number of prior therapies: Many patients in Phase1/2 have multiple prior lines of therapy
- Median 149 days (~6 months) to onset¹ allows for monitoring & intervention
- Education and guidelines implementation underway

Source: 1Powell et al, SABCS 2018; Poster #P6-17-06, Abstract #979

Symptom identification for diagnosis of ILD

Talk to your patients about their symptoms....

Have you been coughing recently? Is it a dry cough?

Have you had any shortness of breath, especially during or after physical activity?

Have you experienced any new breathing or respiratory problems?

If you already have respiratory problems, have they gotten worse?

Have you had a fever?

Have you been feeling tired?

Have you lost weight?

Symptom identification is vital to identification of ILD/pneumonitis!

@ErikaHamilton9

Courtesy of Erika Hamilton, MD


Management of Interstitial Lung Disease in Clinical Studies of Trastuzumab Deruxtecan



Continued Updated Results from DESTINY-Breast01, a Phase 2 Trial of Trastuzumab Deruxtecan (T-DXd) in HER2-Positive Metastatic Breast Cancer

Modi S et al. SABCS 2020;Abstract PD3-06.



DESTINY-Breast01: Best Percentage Change from Baseline in Tumor Size





FDA Approves Margetuximab for HER2-Positive mBC Press Release – December 16, 2020

"On December 16, 2020, the Food and Drug Administration approved margetuximab-cmkb in combination with chemotherapy, for the treatment of adult patients with metastatic HER2-positive breast cancer who have received two or more prior anti-HER2 regimens, at least one of which was for metastatic disease.

Efficacy was evaluated in SOPHIA (NCT02492711), a randomized, multicenter, openlabel trial of 536 patients with IHC 3+ or ISH-amplified HER2+ metastatic breast cancer who had received prior treatment with other anti-HER2 therapies. Patients were randomized (1:1) to margetuximab plus chemotherapy or trastuzumab plus chemotherapy. Randomization was stratified by chemotherapy choice (capecitabine, eribulin, gemcitabine, or vinorelbine), number of lines of therapy in the metastatic setting (≤ 2 , > 2), and number of metastatic sites (≤ 2 , > 2)."



Research

JAMA Oncology | Original Investigation

Efficacy of Margetuximab vs Trastuzumab in Patients With Pretreated ERBB2-Positive Advanced Breast Cancer A Phase 3 Randomized Clinical Trial

Hope S. Rugo, MD; Seock-Ah Im, MD, PhD; Fatima Cardoso, MD; Javier Cortés, MD, PhD; Gluseppe Curigliano, MD, PhD; Antonino Musolino, MD, PhD, MSc; Mark D. Pegram, MD; Gail S. Wright, MD; Cristina Saura, MD, PhD; Santiago Escrivá-de-Romaní, MD; Michelino De Laurentiis, MD, PhD; Christelle Levy, MD; Ursa Brown-Glaberman, MD; Jean-Marc Ferrero, MD; Maaike de Boer, MD, PhD; Sung-Bae Kim, MD, PhD; Katarína Petráková, MD, PhD; Denise A. Yardley, MD; Orit Freedman, MD, MSc; Erik H. Jakobsen, MD; Bella Kaufman, MD; Rinat Yerushalmi, MD; Peter A. Fasching, MD; Jeffrey L. Nordstrom, PhD; Ezio Bonvini, MD; Scott Koenig, MD, PhD; Sutton Edlich, MS, PA; Shengyan Hong, PhD; Edwin P. Rock, MD, PhD; William J. Gradishar, MD; for the SOPHIA Study Group

JAMA Oncol 2021;[Online ahead of print].



Agenda

Module 1: Breast Cancer 2021

• Dr Matt-Amaral: A 42-year-old premenopausal woman with ER-positive, HER2-positive, node-negative breast cancer

Module 2: Management of Localized Disease

• Dr Matt-Amaral: A 73-year-old woman with clinical T4 ER/PR-negative, HER2-positive breast cancer

Module 3: Sequencing of Agents for Metastatic Disease

- Dr Astrow: A 70-year-old woman with a 10-cm Grade III, ER/PR-negative, HER2-positive IDC and pleural metastases
- Dr Rodriguez: A 36-year-old woman with heavily pretreated ER/PR-positive, HER2-positive breast cancer and bone metastases

Module 4: Systemic Treatment of Brain Metastases

- Dr Ma: A 42-year-old Middle Eastern woman with HER2-positive breast cancer and brain metastases
- Dr Hussein: A 43-year-old woman with ER/PR-negative, HER2-positive breast cancer with brain metastasis
- Dr Glynn: A 60-year-old woman with malignant pericardial effusion



Case Presentation – Dr Ma: A 42-year-old Middle Eastern woman with HER2-positive breast cancer and brain metastases



Dr Yanjun Ma

- 10/2018: Neoadjuvant TCHP \rightarrow right mastectomy with axillary nodal dissection
- 5/2019: XRT planned but noted right axillary discomfort and palpable node
 - Tumor size doubled extending to chest wall with significant increase in pain in 2 weeks
- PET: Diffuse right chest wall, axillary, internal mammary, and supraclavicular nodal metastases with direct muscle invasion
- MRI: 2 occipital lobe metastases
- Treated with AC \rightarrow SBRT to brain lesions \rightarrow T-DM1 x 1 cycle (D/Ced due to liver toxicity)
- 2/2020: Single-agent neratinib and faring well

Questions

- What are the faculty's thoughts on administering tucatinib if this patient becomes neratinib-refractory?
- Does T-DXd penetrate the CNS? If so, how well?



Case Presentation – Dr Hussein: A 43-year-old woman with ER/PR-negative, HER2-positive breast cancer with brain metastasis



Dr Atif Hussein

- 1/2016: Stage IIIC Grade 3 left, ER/PR-negative, HER2-positive IDC
 - S/p neoadjuvant TCH-P x 6 \rightarrow left MRM and ALND, adjuvant RT and trastuzumab (completed 2/2017)
 - 3/2018: Completed adjuvant neratinib study (ExteNET)
- 3/2019: Resection of 4-cm ER/PR-negative, HER2-positive left parietal mass \rightarrow SBRT
 - CT chest/abdomen/pelvis and bone scan: Negative
- 4/2019: Capecitabine/lapatinib
- 7/2019 brain MRI: New left parietal lesion at previous site \rightarrow second subtotal resection
- 10/2019: T-DM1
- 1/2020 brain MRI: Complete resolution of left parietal mass
- 12/2020: T-DM1 cycle 22. Brain MRIs, CT and bone scans No evidence of disease

Question

If this patient presented today post-neratinib, lapatinib and capecitabine, what treatment would you
recommend – T-DM1, tucatinib, capecitabine/trastuzumab, other?



Case Presentation – Dr Glynn: A 60-year-old woman with malignant pericardial effusion



Dr Philip Glynn

- 11/2008: Initial diagnosis ER/PR-positive, HER2-negative IDC
 - Received multiple treatments, including hormonal therapy, carboplatin/gemcitabine, capecitabine, nab-paclitaxel
- 7/2020: Patient developed liver metastases, recurrence of pericardial effusion
 Biopsy: HER2-positive disease
- Treated with T-DM1
 - Performance status improved, tolerating treatment well
- 2/2021: Patient inquires about treatment break

Question

 Given that this patient did not exhibit any impairments in her quality of life, I advised her we should continue therapy, but what are the faculty's thoughts on this case?



Brain Metastases Are Common in Advanced Cancers

Primary site	Incidence rate
Lung cancer – overall	16%-20%
SCLC NSCLC	~30% ~13%
Breast cancer – overall	10%-15%
HER2-positive Triple-negative	25%-50% 20%

Barnholtz-Sloan JS et al. *J Clin Oncol* 2004;22(14):2865-72 Chamberlain MC et al. *Neuro-Oncology* 2017;19(1):i1-24



TBCRC 022: Phase II Study Design



TBCRC 022: CNS Volumetric Response



NALA: Phase III Trial Design



N = 621

Coprimary endpoints: PFS (central) and OS



Saura C et al. J Clin Oncol 2020;38(27):3138-49.

NALA: Neratinib for HER2-Positive mBC in Patients with Baseline CNS Disease

	CNS metastases at baseline (n = 101)		No CNS metastases at baseline (n = 520)	
	Neratinib + cape (n = 51)	Lapatinib + cape (n = 50)	Neratinib + cape (n = 256)	Lapatinib + cape (n = 264)
Median PFS	7.8 mo	5.5 mo	9.0 mo	6.9 mo
	HR = 0.66		HR = 0.76	
Median OS	16.4 mo	15.4 mo	25.6 mo	23.6 mo
	HR = 0.90		HR = 0.85	



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Intracranial Efficacy and Survival With Tucatinib Plus Trastuzumab and Capecitabine for Previously Treated HER2-Positive Breast Cancer With Brain Metastases in the HER2CLIMB Trial

Nancy U. Lin, MD¹; Virginia Borges, MMSc, MD²; Carey Anders, MD³; Rashmi K. Murthy, MD, MBE⁴; Elisavet Paplomata, MD⁵;

Erika Hamilton, MD⁶; Sara Hurvitz, MD⁷; Sherene Loi, MD, PhD⁸; Alicia Okines, MBChB, MD⁹; Vandana Abramson, MD¹⁰;

Philippe L. Bedard, MD¹¹; Mafalda Oliveira, MD, PhD¹²; Volkmar Mueller, MD¹³; Amelia Zelnak, MD¹⁴;

Michael P. DiGiovanna, MD, PhD¹⁵; Thomas Bachelot, MD¹⁶; A. Jo Chien, MD¹⁷; Ruth O'Regan, MD⁵;

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Suzanne McGoldrick, MD, MPH²⁵; Xuebei An, PhD²⁵; and Eric P. Winer, MD¹

J Clin Oncol 2020;38(23):2610-9.



HER2CLIMB: Intracranial Response Rate (ORR-IC) in Patients with Active Brain Metastases and Measurable Intracranial Lesions at Baseline

Confirmed Objective Response Rate (RECIST 1.1)



	TUC+Tras+Cape (N=55)	Pbo+Tras+Cape (N=20)
Best Overall Intracranial Response ^a , n (%)		
Complete Response (CR)	3 (5.5)	1 (5.0)
Partial Response (PR)	23 (41.8)	3 (15.0)
Stable Disease (SD)	24 (43.6)	16 (80.0)
Progressive Disease (PD)	2 (3.6)	0
Not Available ^b	3 (5.5)	0
Subjects with Objective Response of Confirmed CR or PR, n	26	4
Duration of Intracranial Response (DOR-IC) ^e (95% CI) ^f , months	6.8 (5.5, 16.4)	3.0 (3.0, 10.3)

(a) Confirmed Best overall response assessed per RECIST 1.1. (b) Subjects with no post-baseline response assessments. (c) Twosided 95% exact confidence interval, computed using the Clopper-Pearson method (1934). (d Cochran-Mantel-Haenszel test controlling for stratification factors (ECOG performance status: 0/1, and Region of world: North America/Rest of World) at randomization. (e) As estimated using Kaplan-Meier methods. (f) Calculated using the complementary log-log transformation method (Collett, 1994).

*Stratified Cochran-Mantel-Haenszel P value



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PRESENTED BY: Nancy Lin, nlin@partners.org

Courtesy of Carey K Anders, MD

Cases from the Community: Investigators Discuss the Role of PARP Inhibition in the Care of Actual Patients with Ovarian Cancer

> Saturday, March 20, 2021 4:00 PM – 5:00 PM ET

Faculty

Susana Banerjee, MBBS, MA, PhD Richard T Penson, MD, MRCP Shannon N Westin, MD, MPH

> Moderator Neil Love, MD



Thank you for joining us!

NCPD credit information will be emailed to each participant within 3 business days.

