Cancer Conference Update: What Happened at the 2020 San Antonio Breast Cancer Symposium[®] Management of Triple-Negative Breast Cancer

> Monday, February 22, 2021 5:00 PM – 6:00 PM ET

Faculty Joyce O'Shaughnessy, MD



Faculty



Joyce O'Shaughnessy, MD

Celebrating Women Chair in Breast Cancer Research Baylor University Medical Center Director, Breast Cancer Research Program Texas Oncology US Oncology Dallas, Texas



Commercial Support

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Dr Love — Disclosures

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Dr O'Shaughnessy — Disclosures

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ONCOLOGY TODAY WITH DR NEIL LOVE The Role of PARP Inhibition in the Management of Breast Cancer



HOPE S RUGO, MD HELEN DILLER FAMILY COMPREHENSIVE CANCER CENTER









Dr Hope Rugo The Role of PARP Inhib Oncology Today with Dr Neil Love —

(15) (30)

Meet The Professor Management of Lung Cancer

Tuesday, February 23, 2021 12:00 PM – 1:00 PM ET

> Faculty Martin Reck, MD, PhD



Recent Advances in Hematologic Oncology: A 4-Part Live Webinar Series Reviewing Key Data and **Presentations from the 62nd ASH Annual Meeting** Part 4 — Chronic Lymphocytic Leukemia Wednesday, February 24, 2021 5:00 PM - 6:00 PM ET Faculty Paul M Barr, MD Matthew S Davids, MD, MMSc **Kerry Rogers, MD Moderator** Neil Love, MD



Cases from the Community: Investigators Discuss Emerging Research and Actual Patients with Prostate Cancer (Part 1 of a 3-Part Series)

> Thursday, February 25, 2021 5:00 PM – 6:30 PM ET

> > Faculty Tanya B Dorff, MD Fred Saad, MD

A Oliver Sartor, MD Matthew R Smith, MD, PhD



Cases from the Community: Investigators Discuss Emerging Research and Actual Patients with Renal Cell Carcinoma (Part 2 of a 3-Part Series)

> Monday, March 1, 2021 5:00 PM – 6:00 PM ET

Faculty Thomas E Hutson, DO, PharmD Thomas Powles, MBBS, MRCP, MD



Meet The Professor Management of Ovarian Cancer

> Tuesday, March 2, 2021 5:00 PM – 6:00 PM ET

Faculty Thomas J Herzog, MD



Meet The Professor Management of Multiple Myeloma

Wednesday, March 3, 2021 5:00 PM – 6:00 PM ET

Faculty Morie A Gertz, MD, MACP



Cases from the Community: Investigators Discuss Emerging Research and Actual Patients with Urothelial Bladder Carcinoma (Part 3 of a 3-Part Series) Thursday, March 4, 2021 5:00 PM - 6:15 PM ET Faculty **Arjun Balar, MD Elisabeth I Heath, MD**

Jonathan E Rosenberg, MD



Cancer Conference Update: What Happened at the 2020 San Antonio Breast Cancer Symposium[®]

Session 1: Triple-Negative Breast Cancer
Monday, January 11, 2021
5:00 – 6:00 PM ET
For early a

P Kelly Marcom, MD

Session 1: HER2-Positive Breast Cancer Monday, January 25, 2021 5:00 – 6:00 PM ET

Faculty Erika Hamilton, MD

Session 2: Triple-Negative Breast Cancer Monday, February 22, 2021 5:00 – 6:00 PM ET

Faculty Joyce O'Shaughnessy, MD Session 2: HER2-Positive Breast Cancer Monday, March 8, 2021 5:00 – 6:00 PM ET

Faculty Mark D Pegram, MD



Thank you for joining us!

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Cancer Conference Update: What Happened at the 2020 San Antonio Breast Cancer Symposium[®] Management of Triple-Negative Breast Cancer

> Monday, February 22, 2021 5:00 PM – 6:00 PM ET

Faculty Joyce O'Shaughnessy, MD



Beyond the Guidelines: Clinical Investigator Perspectives on the Management of Triple-Negative Breast Cancer

Friday, December 11, 2020 8:30 PM – 10:00 PM ET

Faculty

P Kelly Marcom, MD Joyce O'Shaughnessy, MD Hope S Rugo, MD Professor Peter Schmid, MD, PhD



Faculty



P Kelly Marcom, MD Director, Breast Oncology Program Professor of Medicine Duke Cancer Institute Durham, North Carolina



Hope S Rugo, MD
Professor of Medicine
Director, Breast Oncology and Clinical Trials Education
University of California, San Francisco
Helen Diller Family Comprehensive Cancer Center
San Francisco, California



Joyce O'Shaughnessy, MD

Celebrating Women Chair in Breast Cancer Research Baylor University Medical Center Director, Breast Cancer Research Program Texas Oncology US Oncology Dallas, Texas



Professor Peter Schmid, MD, PhD Centre Lead Centre for Experimental Cancer Medicine Barts Cancer Institute London, United Kingdom


Presentation Library

Triple-Negative Breast Cancer, Friday, December 11, 2020

Optimal Integration of Immune Checkpoint Inhibitors into the Management of Metastatic Triple-Negative Breast Cancer (mTNBC) Professor Peter Schmid, MD, PhD

Novel Applications of Immune Checkpoint Inhibitors for Patients with Early TNBC Hope S Rugo, MD

Current and Future Role of PARP Inhibitors for Patients with TNBC and a BRCA Mutation P Kelly Marcom, MD

Current and Future Management of PD-L1-Negative mTNBC Joyce O'Shaughnessy, MD **Download Slides**

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> Monday, February 22, 2021 5:00 PM – 6:00 PM ET

Faculty Joyce O'Shaughnessy, MD



Triple-Negative Breast Cancer Survey Participants

- 1. Sylvia Adams, MD
- 2. Carey K Anders, MD
- 3. Aditya Bardia, MD, MPH
- 4. Joanne L Blum, MD, PhD
- 5. Adam M Brufsky, MD, PhD
- 6. Howard A Burris III, MD
- 7. Harold J Burstein, MD, PhD
- 8. Lisa A Carey, MD
- 9. Matthew Goetz, MD
- 10. Erika Hamilton, MD
- 11. Sara Hurvitz, MD
- 12. Virginia Kaklamani, MD, DSc
- 13. Hannah M Linden, MD

- 14. P Kelly Marcom, MD
- 15. Jennifer M Matro, MD
- 16. Kathy D Miller, MD
- 17. Rita Nanda, MD
- 18. Ruth O'Regan, MD
- 19. Joyce O'Shaughnessy, MD
- 20. Mark D Pegram, MD
- 21. Lajos Pusztai, MD, DPhil
- 22. Hope S Rugo, MD
- 23. Professor Peter Schmid, MD, PhD
- 24. Joseph A Sparano, MD
- 25. Sara M Tolaney, MD, MPH



What Happened at the 2020 San Antonio Breast Cancer Symposium: Session 1 - January 11, 2021



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









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SCHOOL OF MEDICINE





Alan B Astrow, MD

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



Agenda

Module 1: Case Presentations

- An 88-year-old woman with triple-negative lobular carcinoma
- A 66-year-old woman with triple-negative, node-positive breast cancer
- A 31-year-old woman with triple-negative, node-negative IDC

Module 2: San Antonio Breast Cancer Symposium Review – Part 1

Module 3: Case Presentations

- A 40-year-old woman with metastatic triple-negative breast cancer (TNBC)
- A 61-year-old woman with a germline BRCA1 mutation and locally advanced breast cancer

Module 4: San Antonio Breast Cancer Symposium Review – Part 2

Module 5: Case Presentations

- A 46-year-old woman with triple-negative small cell carcinoma of the breast
- A 37-year-old woman with triple-negative IDC
- A 68-year-old woman with triple-negative, node-negative IDC

Module 6: San Antonio Breast Cancer Symposium Review – Part 3



Agenda

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Module 6: San Antonio Breast Cancer Symposium Review – Part 3



Case Presentation – Dr Astrow: An 88-year-old woman with a multifocal invasive triple-negative lobular carcinoma with clinically negative nodes

- Excellent performance status
- 2.6-cm multifocal invasive lobular carcinoma
- Grade 3, triple-negative, Ki67 ~50%
- No sentinel lymph node performed but no palpable nodes in the axilla
- Predict UK: 2% benefit from adding chemotherapy at 10 years

Question

• Should I recommend adjuvant chemotherapy or not?



Dr Alan Astrow



Case Presentation – Dr Astrow: An 88-year-old woman with a multifocal invasive triple-negative lobular carcinoma with clinically negative nodes



Dr Alan Astrow

Predict Breast – Survival After Surgery*

	Surgery only	With adjuvant chemotherapy	Additional benefit
5-year survival 60-year-old woman 85-year-old woman	78% 51%	84% 57%	6.4% 5.3%
10-year survival 60-year-old woman 85-year-old woman	67% 22%	75% 25%	7.9% 3.3%

* Chemotherapy is a taxane-based regimen; 85 years is the upper age limit of the tool.

- For an 85-year-old woman, if death from breast cancer were excluded:
 - 67% would survive at least 5 years, and 33% would die of other causes
 - 32% would survive at least 10 years, and 68% would die of other causes



Case Presentation – Dr Astrow: A 66-year-old woman with 4-cm TNBC (axilla positive) with residual disease after neoadjuvant chemotherapy

- Right, 4-cm, Grade 3, triple-negative IDC, with biopsy-proven positive axillary node
- Neoadjuvant dose-dense AC-paclitaxel
- Lumpectomy/ALND \rightarrow 1.7-cm residual Grade 3 IDC, 1/10 positive axillary nodes
- Patient declines strongly recommended adjuvant capecitabine
- Nine months later, after discovery of a breast seroma, patient strongly wants to receive capecitabine
 - No distant metastases

Questions

- Should I give her the capecitabine, even though the data don't support it?
- If I give her capecitabine, should it be for 6 months as in the CREATE-X trial, or one-year of metronomic capecitabine per the report from China in *JAMA Oncology*? Do you have a preference if not giving it neoadjuvantly?



Dr Alan Astrow



Case Presentation – Dr Astrow: A 31-year-old woman with triple-negative, node-negative IDC – 3 separate sites

- Three separate right breast masses: 1.8-cm, 1.6-cm, 1.3-cm
- Core biopsy: Grade 2 IDC, triple-negative
- Neoadjuvant dose-dense AC-paclitaxel
- Mastectomy: 2 foci of residual Grade 2 IDC 1.2-cm and 0.2-cm; SLNB: Negative
- Adjuvant capecitabine

Questions

- Would you have given carboplatin in addition to the neoadjuvant AC-paclitaxel?
- Should I give her additional treatment beyond the adjuvant capecitabine?
- What schedule of capecitabine should I give her?
- In a non-protocol setting, for a young woman with aggressive breast cancer, have you given adjuvant pembrolizumab?



Dr Alan Astrow



CLINICAL STUDY



Neurotoxicities associated with immune checkpoint inhibitor therapy

Sophie L. Duong^{1,2} · Frank J. Barbiero¹ · Richard J. Nowak¹ · Joachim M. Baehring^{3,4}

Duong SL et al. J Neuro-oncology;2021



Characteristics of Neurotoxicity





Duong SL et al. J Neuro-oncology;2021

Agenda

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Module 6: San Antonio Breast Cancer Symposium Review – Part 3





Additional Efficacy Endpoints from the Phase 3 KEYNOTE-355 Study of Pembrolizumab + Chemotherapy versus Placebo + Chemotherapy as First-Line Therapy for Locally Recurrent Inoperable or Metastatic Triple-Negative Breast Cancer (mTNBC)

Hope S. Rugo¹, Peter Schmid², David W. Cescon³, Zbigniew Nowecki⁴, Seock-Ah Im⁵, Mastura Md Yusof⁶, Carlos Gallardo⁷, Oleg Lipatov⁸, Carlos Henrique Barrios⁹, Jose Perez-Garcia¹⁰, Hiroji Iwata¹¹, Norikazu Masuda¹², Marco Torregroza Otero¹³, Erhan Gokmen¹⁴, Sherene Loi¹⁵, Zifang Guo¹⁶, Jing Zhao¹⁶, Vassiliki Karantza¹⁶, Gursel Aktan¹⁶, Javier Cortes¹⁷

 University of California San Francisco Comprehensive Cancer Center, San Francisco, CA, USA; 2. Barts Cancer Institute, Centre for Experimental Cancer Medicine, Queen Mary University of London, London, UK; 3. Princess Margaret Cancer Centre, Toronto, Ontario, Canada; 4. Maria Sklodowska-Curie Memorial Cancer Centre and Institute of Oncology, Warsaw, Poland; 5. Seoul National University Hospital, Seoul, Korea; 6. Pantai Hospital, Kuala Lumpur, Malaysia; 7. Arturo Lopez Perez Foundation, Santiago, Chile; 8. Republican Clinical Oncology Dispensary, Republic of Bashkortostan, Russian Federation; 9. Centro de Hematologia e Oncologia, Porto Alegre, Brazil; 10. Institute of Breast Cancer, Quiron Group, Barcelona; 11. Aichi Cancer Center Hospital, Nagoya, Japan; 12. National Hospital Organization Osaka National Hospital, Osaka, Japan; 13. Oncomedica S.A., Monteria, Colombia; 14. Ege University Medical Faculty, Izmir, Turkey; 15. Peter McCallum Cancer Institute, Melbourne, Australia; 16. Merck & Co., Inc., Kenilworth, NJ, USA; 17. International Breast Cancer Center (IBCC), Quiron Group, Madrid & Barcelona, Spain

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Pembrolizumab (anti-PD-1) plus chemotherapy in TNBC

KEYNOTE-355 study design



- Taxane, 45%; Gem/carboplatin, 55%
- Prior treatment with same class chemo, 22%
- De novo MBC, 30%; DFI 6-12, 21%; DFI >12, 49%

Nab-paclitaxel, 100 mg/m² IV on days 1, 8, and 15 every 28 days Paclitaxel, 90 mg/m² IV on days 1, 8, and 15 every 28 days Gemcitabine, 1000 mg/m²/carboplatin AUC 2 on days 1 and 8 every 21 days

. Co-primary endpoints were PFS and OS in the CPS ≥10, CPS ≥1, and ITT populations

Statistical design: Overall alpha controlled at one-sided 0.025, split among PFS (0.005), OS (0.018), and ORR (0.002); hierarchical testing PFS (CSP10>CP1>ITT)

Courtesy of Professor Peter Schmid, MD, PhD

Cortes, et al. ASCO 2020

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KEYNOTE-355: Progression-Free Survival in Subgroups by On-Study Chemotherapy

PD-L1 CPS ≥10

			Median PFS (mo)		for Progression
Subgroup		N	Pembro + Chemo	Placebo + Chemo	or Death (95% CI)
Overall	⊢	323	9.7	5.6	0.65 (0.49 to 0.86)
On-study chemotherapy					
Nab-Paclitaxel	·	99	9.9	5.5	0.57 (0.34 to 0.95)
Paclitaxel		44	9.6	3.6	0.33 (0.14 to 0.76)
Gemcitabine- Carboplatin		' 180	8.0	7.2	0.77 (0.53 to 1.11)
0.0	0.5 1 Hazard Ratio (95% C		5		
•	Favors Pembro + Chemo	Favors Placebo + Chen	10		

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Rugo H et al. SABCS 2020; Abstract GS3-01.

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San Antonio Breast Cancer Symposium[®], December 8-11, 2020

Hazard Ratio

KEYNOTE-355: Progression-Free Survival in Subgroups by On-Study Chemotherapy

PD-L1 CPS ≥1

			Median	PFS (mo)	for Progression
Subgroup		Ν	Pembro + Chemo	Placebo + Chemo	or Death (95% Cl)
Overall		636	7.6	5.6	0.74 (0.61 to 0.90)
On-study chemotherapy					
Nab-Paclitaxel	·	204	6.3	5.3	0.66 (0.47 to 0.92)
Paclitaxel	⊢	84	9.4	3.8	0.46 (0.26 to 0.82)
Gemcitabine- Carboplatin	·	348	7.5	7.5	0.86 (0.66 to 1.11)
0.0	0.5 1. Hazard Ratio (95% C	0 I)	1.5		
P	Favors Pembro + Chemo	Favors Placebo + Ch	iemo		

Rugo H et al. SABCS 2020; Abstract GS3-01.

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San Antonio Breast Cancer Symposium[®], December 8-11, 2020

KEYNOTE-355: Response Rate in Subgroups by On-Study Chemotherapy



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Genomic Profiling and Clinical Outcomes with First-Line Atezolizumab and *Nab*-Paclitaxel in Triple-Negative Breast Cancer: An Exploratory Analysis from the Phase 3 IMpassion130 Trial

Emens L et al. SABCS 2020;Abstract PD14-05.



Conclusions – Part 1

This exploratory retrospective subgroup analysis from the IMPassion130 study showed that:

- PD-L1 IC+ status was positively associated with TP53 loss of function alterations and negatively associated with VEGFA and CCND3 amplifications, however, ^{es}genes were not linked to clinical outcomes
- *BRCA1* alterations were more prevalent in primary tumors, while *PIK3R1* alterations were more prevalent in metastatic tumors
- *TP53 BRCA1* and *RB1* alterations were more prevalent in younger patients while older patients had more alterations in *PI3KCA* and *KM12C*
- *PIK3CA* mutations were more prevalent in Asian patients compared with other races
- *TP53* and *MYC* alterations were more prevalent in basal tumors while *PIK3CA* and *PTE* were more characteristic in LAR molecular subtype
- Few gene alterations had a prognostic effect. Loss of RB1 possibly boosting tumor cell proliferation, was most associated with prognosis



Emens L et al. SABCS 2020; Abstract PD14-05.

Conclusions – Part 2

This exploratory retrospective subgroup analysis from the IMPassion130 study showed that:

- CN alterations in CDKN2A and CDKN2B were linked to an improved clinical outcome with A + nP, while MAP3K1 SVs were associated with a negative A + nP outcome
- MSI-H tumors were infrequent in Impassions 130, with the outcome associated with A + nP remaining unknown
- PIK3CA, AKT1, PTEN-altered status was not linked to PD-L1 IC status or A + nP clinical outcome

This analysis represents the largest data set evaluating the genomic profile of patients with locally advanced or mTNBC who were treated with immunotherapeutic agents

These data are hypothesis generating and require validation in an independent data set



Lenvatinib plus Pembrolizumab for Previously Treated, Advanced Triple-Negative Breast Cancer: Early Results from the Multicohort Phase 2 LEAP-005 Study

Chung HC et al. SABCS 2020;Abstract PS12-07.



LEAP-005 Study Design

Study population

- Women aged \geq 18 years
- Histologically/cytologically confirmed advanced TNBC
- 1 or 2 prior lines of therapy
- Measurable disease per RECIST version 1.1
- ECOG PS 0-1
- Tissue for PD-L1 assessment





Chung HC et al. SABCS 2020; Abstract PS12-07.
LEAP-005: Best Percentage Change from Baseline in Target Lesion Size



Includes patients with one or more evaluable post-baseline imaging assessment (n = 27).



Chung HC et al. SABCS 2020; Abstract PS12-07.

LEAP-005: Treatment Duration and Response Evaluation





KEYNOTE-522 Study Design (NCT03036488)



Neoadjuvant phase: starts from the first neoadjuvant treatment and ends after definitive surgery (post treatment included)
Adjuvant phase: starts from the first adjuvant treatment and includes radiation therapy as indicated (post treatment included)
PD-L1 + defined by CPS ≥1

^aMust consist of at least 2 separate tumor cores from the primary tumor. ^bCarboplatin dose was AUC 5 Q3W or AUC 1.5 QW. ^cPaclitaxel dose was 80 mg/m² QW. ^dDoxorubicin dose was 60 mg/m² Q3W. ^eEpirubicin dose was 90 mg/m² Q3W. ^fCyclophosphamide dose was 600 mg/m² Q3W. Courtesy of Hope S Rugo, MD Schmid et al, NEJM 2020

Event-Free Survival at IA2: 1st Interim Analysis P value boundary for significance 0.000051 (HR<0.4)



^aPrespecified *P* value boundary of 0.000051 not reached at this analysis (the first interim analysis of EFS). IA2: If pCR hypothesis successful at IA1, pCR will not be formally tested at IA2 HR (CI) analyzed based on a Cox regression model with treatment as a covariate stratified by randomization stratification factors. **Data cutoff April 24, 2019; 24 mo after last pt enrolled** Regulatory and reimbursement issues aside, have you attempted or would you attempt to access an anti-PD-1/PD-L1 antibody as part of neoadjuvant therapy for a 60-year-old patient with a 6-cm TNBC with 3 positive axillary nodes on biopsy (PD-L1 60%)?

1. I have

- 2. I haven't but would for the right patient
- 3. I haven't and would not



Have you or would you attempt to access an anti-PD-1/PD-L1 antibody as part of neoadjuvant therapy off protocol for a 60-year-old patient with TNBC with the following characteristics?

Tumor size: 6 cm, Nodal status: 3 positive nodes, PD-L1: 60%



Regulatory and reimbursement issues aside, have you or would you attempt to access an anti-PD-1/PD-L1 antibody as part of neoadjuvant therapy off protocol for a 60-year-old patient with TNBC with the following characteristics?

Tumor size: 6 cm, Nodal status: node-negative, PD-L1: 10%

3



I haven't but would for the right patient



A 32-year-old woman who completed neoadjuvant FEC/docetaxel and postoperative radiation therapy 21 months ago for localized TNBC now presents with small-volume liver and nodal metastases: BRCA wild type, PD-L1 positive. What therapy would you recommend?

- 1. Chemotherapy
- 2. Atezolizumab/nab paclitaxel
- 3. Atezolizumab/paclitaxel
- 4. Pembrolizumab/*nab* paclitaxel
- 5. Pembrolizumab/paclitaxel
- 6. Pembrolizumab/gemcitabine/carboplatin
- 7. Other



A 32-year-old woman who completed neoadjuvant FEC/T and radiation therapy 21 months ago for localized TNBC now presents with liver and nodal metastases. Biomarker assessment reveals BRCA WT, PD-L1-positive disease. What therapy would you recommend?



Agenda

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Module 2: San Antonio Breast Cancer Symposium Review – Part 1

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Module 5: Case Presentations

- A 46-year-old woman with triple-negative small cell carcinoma of the breast
- A 37-year-old woman with triple-negative IDC
- A 68-year-old woman with triple-negative, node-negative IDC

Module 6: San Antonio Breast Cancer Symposium Review – Part 3



Case Presentation – Dr Astrow: A 40-year-old woman with metastatic TNBC – PD-L1 CPS 15%



- Left breast mass, Core biopsy: Grade 3 IDC, triple-negative
- Neoadjuvant dose-dense AC-paclitaxel \rightarrow Residual 2.5-cm Grade 3 IDC, with 1/11 positive axillary nodes
- RT to left chest wall and regional nodes
- Patient did not tolerate adjuvant capecitabine well
- One year later: Multiple subcutaneous nodules in the mastectomy bed, biopsy-positive for TNBC
 - No other site of recurrence in CT chest/abdomen/pelvis and bone scan
 - PD-L1 CPS: 15%
- Gemcitabine/carboplatin/pembrolizumab

Questions

- What is the best treatment for metastatic triple-negative breast cancer, PD-L1-positive?
- Could I re-irradiate her? Is there any role for surgery? How long should I treat her for?
- If she is responding, should I stop the gem/carbo at some point and just continue her on pembrolizumab?



Dr Alan Astrow

Case Presentation – Dr Astrow: A 61-year-old woman with Grade II breast cancer – BRCA1 mutation



Dr Alan Astrow

- Presented 4 years ago with Grade 2 (T2N1M0) IDC, triple-negative
- Neoadjuvant dose-dense AC-paclitaxel \rightarrow Complete clinical response
- Underwent mastectomy → Residual 3.0 mm IDC (ER/PR-positive, HER2-negative)
- Patient declined entering OlympiA (NSABP-B55) adjuvant PARP inhibitor trial
- Currently receiving adjuvant tamoxifen

Questions

- If the results of the OlympiA are positive, would you start this patient on delayed PARP inhibition?
- How would you approach treating a patient like this if she presented today?



A 61-year-old woman with a Grade II triple-negative IDC and a BRCA1 germline mutation has a complete clinical response to neoadjuvant dose-dense AC/paclitaxel but has 3.0-mm residual disease at surgery. What would you estimate to be her risk of recurrence?

- 1. Less than 5%
- 2. 5% 10%
- 3. 11% 20%
- 4. 21% 30%
- 5. 31% 40%
- 6. 41% 50%
- 7. 51% 60%
- 8. Greater than 60%



If the previous patient's risk of recurrence is currently 35%, regulatory and reimbursement issues aside, how much of an improvement in the risk of recurrence would you need to administer 1 year of adjuvant olaparib?

1.	1%
2.	5%
3.	10%
4.	15%
5.	20%
6.	25%
-	

7. Greater than 25%



OlympiA Trial: Olaparib Crosses Superiority Boundary for Invasive Disease-Free Survival versus Placebo at Planned Interim Analysis Press Release: February 17, 2021

"The Phase 3 OlympiA trial for olaparib will move to early primary analysis and reporting following a recommendation from the Independent Data Monitoring Committee (IDMC). Based on the planned interim analysis, the IDMC concluded that the trial crossed the superiority boundary for its primary endpoint of invasive disease-free survival (iDFS) versus placebo in the adjuvant treatment of germline *BRCA*-mutated (g*BRCA*m), high-risk human epidermal growth factor receptor 2 (HER2)-negative early-stage breast cancer following definitive local treatment and neoadjuvant or adjuvant chemotherapy.

Andrew Tutt, global chair of the OlympiA Phase 3 trial and professor, Institute of Cancer Research and Kings College London, said, "We are delighted that our global academic and industry partnership has been able to help investigate a possible personalized treatment for women with hereditary breast cancer. The most common cause of hereditary breast cancer is an inherited mutation in the BRCA1 or BRCA2 genes, which also may cause the disease to develop at a significantly earlier age than is usual. The OlympiA trial has allowed us to go beyond using genetic testing to identify patients who are at risk of this disease and explore the potential of olaparib to prevent disease recurrence for these patients. We look forward to analyzing and presenting the full results of the trial at a forthcoming medical meeting."

https://finance.yahoo.com/news/independent-data-monitoring-committee-concludes-115500394.html



OlympiA (NSABP B55/BIG 6-13): Phase III Trial Design



Estimated primary completion date: November 18, 2020

Courtesy of P Kelly Marcom, MD

SOLO-1: Updated PFS (60 Months Follow-Up)



RTP RESEARCH TO PRACTICE

Banerjee S et al. ESMO 2020; Abstract 811MO.

PRIMA Primary Endpoint: Progression-Free Survival



Gonzalez-Martin A et al. N Engl J Med 2019;381:2391-402.



Agenda

Module 1: Case Presentations

- An 88-year-old woman with triple-negative lobular carcinoma
- A 66-year-old woman with triple-negative, node-positive breast cancer
- A 31-year-old woman with triple-negative, node-negative IDC

Module 2: San Antonio Breast Cancer Symposium Review – Part 1

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Module 6: San Antonio Breast Cancer Symposium Review – Part 3



PARP Inhibitors for Treatment of BRCA Positive Metastatic Breast Cancer: A Systematic Review and Meta-Analysis

Kunwor R et al. SABCS 2020;Abstract PS10-41.



PARP Inhibitors with or without Chemotherapy versus Chemotherapy Alone: Progression-Free Survival

				Hazard Ratio		Hazard Ratio			
Study or Subgroup	log[Hazard Ratio]	SE	Weight	IV, Random, 95% CI		IV, Random, 95% Cl			
1.1.1 PARP Inhibitor Vs	Chemotherapy								
EMBRACA	-0.6162	0.1405	18.6%	0.54 [0.41, 0.71]					
OlympiAD	-0.5447	0.1527	18.2%	0.58 [0.43, 0.78]					
Subtotal (95% CI)			36.9%	0.56 [0.46, 0.68]		◆			
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 0.12$, $df = 1$ (P = 0.73); $I^2 = 0\%$									
Test for overall effect: $Z = 5.64 (P < 0.00001)$									
2 76 1 721 7 2 32		1	2						
1.1.2 PARP Inhibitor + Chemotherapy Vs Chemotherapy alone									
BROCADE (VCP Vs PCP)	-0.237	0.1973	16.7%	0.79 [0.54, 1.16]					
BROCADE (VT Vs PCP)	0.6195	0.1909	16.9%	1.86 [1.28, 2.70]					
BROCADE 3	-0.3425	0.1121	19.5%	0.71 [0.57, 0.88]		-			
SWOG \$1416	-0.4155	0.4023	10.0%	0.66 [0.30, 1.45]					
Subtotal (95% CI)			63.1%	0.93 [0.57, 1.53]		•			
Heterogeneity: Tau ² = 0.20; Chi ² = 19.80, df = 3 (P = 0.0002); I ² = 85%									
Test for overall effect: $Z = 0.28$ (P = 0.78)									
						~			
Total (95% CI)			100.0%	0.77 [0.55, 1.09]		◆			
Heterogeneity: $Tau^2 = 0$.15; Chi ² = 31.10, df	= 5 (P <		01 10	100				
Test for overall effect: Z = 1.47 (P = 0.14)						Eavours PARP $I + /-$ Chemo Eavours chemotherapy only	100		
Test for subgroup differences: $Chi^2 = 3.53$, $df = 1$ (P = 0.06), $I^2 = 71.6\%$									



Kunwor R et al. SABCS 2020; Abstract PS10-41.

Biomarkers Predicting Response to Durvalumab Combined with Olaparib in the Neoadjuvant I-SPY 2 Trial for High-Risk Breast Cancer

Wolf DM et al. SABCS 2020;Abstract PD14-02.



Biomarkers Predicting Response to Durvalumab/Olaparib Therapy





Wolf DM et al. SABCS 2020; Abstract PD14-02.

KEYLYNK-009: A Phase 2/3, Open-Label, Randomized Study of Pembrolizumab plus Olaparib vs Pembrolizumab plus Chemotherapy After Induction with First-Line Pembrolizumab plus Chemotherapy in Patients with Locally Recurrent Inoperable or Metastatic Triple-Negative Breast Cancer (TNBC)

Rugo H et al. SABCS 2020;Abstract OT-30-01.



Participants

• Locally recurrent inoperable or

Interval between treatment

with curative intent and

recurrence ≥ 6 months

Confirmed PD-L1 status

metastatic TNBC not previously

treated in the metastatic setting

KEYLYNK-009 Study Design

Induction

Carboplatin (AUC 2 on days 1 and 8 of each 21-day cycle) and gemcitabine (1000 mg/m² on days 1 and 8 each 21-day cycle +

pembrolizumab (200 mg Q3W; 4 to 6 cycles)

Randomization is stratified by

- Response (CR or PR vs SD)
- PD-L1 positive (CP≥1) vs PD-L1 negative
- Genomic tumor status (BRCAm vs BRCAwt)

Postinduction

Olaparib (300 mg twice daily) + pembrolizumab (200 mg Q3W; for up to 35 cycles including induction)

Carboplatin (AUC 2 on days 1 and 8 of each 21-day cycle) and gemcitabine (1000 mg/m² on days 1 and 8 of each 21-day cycle)

pembrolizumab (200 mg Q3W; for up to 35 cycles including induction)

1:1

R

Efficacy of Combined CDK4/6 Inhibitor and PARP Inhibitor in the Treatment of BRCA1 Mutant Triple Negative Breast Cancer

Zhu X et al. SABCS 2020;Abstract PS4-39.



Results and Conclusions

Results

- We demonstrated for the first time that the combination of PARPi and CDK4/6i has synergistic effects against some TNBCs both in vitro and in vivo and was verified by CI < 0.9.
- Further experiments confirmed that PARPi combined with CDK4/6i inhibited cell proliferation and migration, and increased apoptosis and DNA damage.
- In the PARPi sensitive BRCA-/TNBC cell (MDA-MB-436), the inhibitory effect of monotherapy PARPi was obvious. In the PARPi resistant BRCA-/TNBC cells (HCC1937 and SUM149), CDK4/6i was added to achieve significant growth inhibition.
- In the timing of medication, PARPi followed by CDK4/6i had better inhibitory effect.

Conclusions

• In some BRCA-/ TNBCs, PARPi combined with CDK4/6i had a synergistic effect. Even in PARPiresistant cells, combined treatment could enhance the efficacy and might reverse the drug resistance to some extent.



What would be your preferred treatment approach for a 60-year-old patient with a BRCA germline mutation and de novo metastatic TNBC that is <u>PD-L1-negative</u>?

- 1. Olaparib
- 2. Talazoparib
- 3. Olaparib or talazoparib coin flip
- 4. Nonplatinum chemotherapy
- 5. Platinum-containing chemotherapy
- 6. Chemotherapy followed by maintenance PARP inhibitor
- 7. Chemotherapy combined with a PARP inhibitor
- 8. Other



What would be your preferred treatment approach for a 60-year-old patient with a BRCA germline mutation and de novo metastatic TNBC that is PD-L1-negative?



Regulatory and reimbursement issues aside, have you attempted or would you attempt to access a PARP inhibitor for a patient with metastatic TNBC and a germline PALB2 mutation?



Regulatory and reimbursement issues aside, have you attempted or would you attempt to access a PARP inhibitor for a patient with metastatic TNBC and a somatic BRCA mutation?



Agenda

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- A 68-year-old woman with triple-negative, node-negative IDC

Module 6: San Antonio Breast Cancer Symposium Review – Part 3



Case Presentation – Dr Astrow: A 46-year-old woman with a 3.8-cm triple-negative, node-positive small cell carcinoma of the left breast



Dr Alan Astrow

- Large left breast mass and axillary nodes
- Core biopsy: Grade 3 IDC, triple-negative, Ki67: 70-80%
- Patient refused neoadjuvant chemotherapy
- Lumpectomy: 3.8-cm, Grade 3 small cell carcinoma, synaptophysin- and chromogranin-negative
- 3/18 positive axillary lymph nodes

Questions

- What chemotherapy would you recommend for this highly aggressive breast cancer? Should I just give standard dose-dense AC/paclitaxel?
- Should I give carbo/paclitaxel, or carbo/etoposide, or cisplatin/etoposide? If I give the patient carbo/etoposide, should I follow that with an anthracycline?



Case Presentation – Dr Astrow: A 37-year-old woman with TNBC and persistent neuropathy after neoadjuvant AC \rightarrow paclitaxel



Dr Alan Astrow

- Left 3-cm Grade 3 IDC, triple-negative
- Neoadjuvant dose-dense AC x 4 \rightarrow Paclitaxel (q2 wk) x 1 discontinued due to allergic reaction
 - BP elevated, trouble breathing, skin rash
- *Nab* paclitaxel x 6 of 9 completed but discontinued due to neuropathy
- Surgery, with CR
- One year later, neuropathy persists

Questions

- Is there anything that can be done for her persistent neuropathy?
- For future patients, do you recommend using gloves with ice in them? Other recommendations?



Case Presentation – Dr Astrow: A 68-year-old woman with an 8-mm triple-negative, node-negative IDC – Oncotype DX[®] RS: 57 (ER-negative)

- Diagnosed with an 8-mm, Grade 3 IDC
- SLNB: Negative
- IHC: ER: 20%, PR: Negative, HER2: Negative
- RT-PCR via Oncotype DX assay: Triple-negative
- Oncotype DX RS: 57

Questions

- Would you suggest TC chemotherapy, particularly in light of her high RS of 57? What about dose-dense AC-paclitaxel?
- Should I offer her an aromatase inhibitor or tamoxifen after completion of chemotherapy, since she is triple-negative by RT-PCR with the Onco*type* DX assay but ER-positive by IHC?



Dr Alan Astrow



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Module 6: San Antonio Breast Cancer Symposium Review – Part 3


Low Levels of Interleukin-6 at Baseline Were Significantly Associated with Improved Overall Survival of Patients Treated with Eribulin for Locally Advanced or Metastatic Breast Cancer

Bun A et al. SABCS 2020;Abstract PS4-20.



Conclusion

Patients treated with eribulin demonstrated a significantly longer OS if their baseline IL-6 levels were within the normal range. This predictive efficacy for eribulin was more accurate than that of NLR or ALC. As there was no significant association between IL-6 levels and NLR or ALC, IL-6 appears to predict whether the tumor microenvironment is favorable or unfavorable for eribulin treatment, mediated through different mechanisms. Therefore, IL-6 levels may be useful for selecting patients who will benefit from the administration of eribulin in terms of improved OS.





Biomarker Evaluation in the Phase 3 ASCENT Study of Sacituzumab Govitecan Versus Chemotherapy in Patients With Metastatic Triple-Negative Breast Cancer

Sara A. Hurvitz,¹ Sara M. Tolaney,² Kevin Punie,³ Delphine Loirat,⁴ Mafalda Oliveira,⁵ Kevin Kalinsky,⁶ Amelia Zelnak,⁷ Philippe Aftimos,⁸ Florence Dalenc,⁹ Sagar Sardesai,¹⁰ Erika Hamilton,¹¹ Priyanka Sharma,¹² Sabela Recalde,¹³ Eva Ciruelos Gil,¹⁴ Tiffany Traina,¹⁵ Joyce O'Shaughnessy,¹⁶ Javier Cortes,¹⁷ Michaela Tsai,¹⁸ Linda Vahdat,¹⁹ Véronique Diéras,²⁰ Lisa Carey,²¹ Hope S. Rugo,²² David M. Goldenberg,²³ Quan Hong,²³ Martin Olivo,²³ Loretta M. Itri,²³ and Aditya Bardia²⁴

¹Medical Oncology, University of California, Los Angeles, Jonsson Comprehensive Cancer Center, Los Angeles, CA, USA; ²Dana-Farber Cancer Institute, Boston, MA, USA; ³Department of General Medical Oncology, University Hospitals Leuven, Leuven, Belgium; ⁴Institut Curie, Paris, France; ⁶Hospital Universitari Vall d'Hebron, Barcelona, Spain; ⁶Winship Cancer Institute, Emory University, Atlanta, GA, USA; ⁷Northside Hospital, Atlanta, GA, USA; ⁸Institut Jules Bordet, Brussels, Belgium; ⁹Institut Claudius Regaud, Toulouse, France; ¹⁰The Ohio State University Wexner Medical Center, Columbus, OH, USA; ¹¹Sarah Cannon Research Institute/Tennessee Oncology, Nashville, TN, USA; ¹²University of Kansas Cancer Center - The Richard and Annette Bloch Cancer Care Pavilion, Kansas City, KS, USA; ¹³Institut Catala d'Oncologia Hospitalet, Barcelona, Spain; ¹⁴Hospital Universitario 12 de Octubre, Madrid, Spain; ¹⁵Memorial Sloan Kettering Cancer Center, New York, NY, USA; ¹⁶Texas Oncology - Baylor Charles A. Sammons Cancer Center, Dallas, TX, USA; ¹⁷IOB Institute of Oncology, Quiron Group, Madrid & Barcelona, Spain; ¹⁸VPCI Oncology Research, Minneapolis, MN, USA; ¹⁹Memorial Sloan Kettering Cancer Center, New York, NY, USA; ²⁰University of California San Francisco Comprehensive Cancer Center, Center, Can Erancisco, CA, USA; ²³Immunomedics, Morris Plains, NJ, USA; and ²⁴Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA

To obtain presentation, https://bit.ly/2020hurvitzgs3-06



ClinicalTrials.gov Number: NCT02574455

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Trop-2–Directed ADC SG is distinct from other ADCs¹⁻⁴

- Antibody highly specific for Trop-2
- High drug-to-antibody ratio (7.6:1)
- Internalization and enzymatic cleavage by tumor cell not required for SN-38 liberation from antibody
- Hydrolysis of the linker also releases SN-38 extracellularly in the tumor microenvironment (bystander effect)
- Granted FDA accelerated approval for mTNBC⁵
- Landmark ASCENT study demonstrated a significant survival improvement of SG over chemotherapy, with a tolerable safety profile in pretreated mTNBC⁶
 - Median PFS of 5.6 vs 1.7 months (HR 0.41, P<0.0001)
 - Median OS of 12.1 vs 6.7 months (HR 0.48, P<0.0001)

Hurvitz S et al. SABCS 2020; Abstract GS3-06.

San Antonio Breast Cancer Symposium®, December 8-12, 2020

Sacituzumab Govitecan (SG) Is a First-in-Class



ASCENT: A Phase 3 Confirmatory Study of Sacituzumab Govitecan in Refractory/Relapsed mTNBC



NCT02574455

- Geographic region (North America vs Europe)
- Presence/absence of known brain metastases (yes/no)

We report the exploratory biomarker analysis in the brain metastases-negative (Brain Mets-Negative) population

*TPC: eribulin, vinorelbine, gemcitabine, or capecitabine. *PFS measured by an independent, centralized, and blinded group of radiology experts who assessed tumor response using RECIST 1.1 criteria in patients without brain metastasis, [‡]The full population includes all randomized patients (with and without brain metastases). Baseline brain MRI only required for patients with known brain metastasis. ASCO/CAP, American Society of Clinical Oncology/College of American Pathologists; DOR, duration of response; DSMC, Data Safety Monitoring Committee; IV, intravenous; mTNBC, metastatic triple-negative breast cancer; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; R, randomization; RECIST, Response Evaluation Criteria in Solid Tumors; TTR, time to response. National Institutes of Health. https://clinicaltrials.gov/ct2/show/NCT02574455.

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4



ORR by Trop-2 Expression





Assessed in the brain metastases-negative population. ORR and PFS are assessed by BICR. Trop-2 expression determined in archival samples by validated immunohistochemistry assay and H-scoring. BICR, blind independent central review; H-score, histochemical-score; ORR, objective response rate; SG, sacituzumab govitecan; TPC, treatment of physician's choice; Trop-2, trophoblast cell surface antigen-2.

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Hurvitz S et al. SABCS 2020; Abstract GS3-06.

Treatment-Related AESIs by Trop-2 Expression: Key AESIs*



 Key grade ≥3 treatment-related AESIs for Trop-2 High (SG [n=90] vs TPC [n=70]): neutropenia (47% vs 32%), diarrhea (12% vs 0%), and anemia (10% vs 5%)

Assessed in the safety population of patients who received at ≥1 dose of SG regardless of brain metastases status and have known Trop-2 expression. Trop-2 expression determined in archival samples by validated immunohistochemistry assay and H-scoring. 'Patients may report more than 1 event per preferred term. AEs were classified according to the MedDRA systems of preferred terms and system organ class and according to severity by NCI CTCAE v4.03. 'Combined preferred terms of 'neutropenia' and 'decreased neutrophil count'. ‡Combined preferred terms of 'anemia,' 'hemoglobin decreased' and 'red blood cell count decreased'. AESI, adverse event of special interest; H-score, histochemical score; MedDRA, Medical Dictionary for Regulatory Activities; NCI CTCAE v4.03, National Cancer Institute Common Terminology Criteria for AEs, version 4.03; SG, sacituzumab govitecan; TPC, treatment of physician's choice; Trop-2, trophoblast cell surface antigen-2.

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10

ASCENT

Hurvitz S et al. SABCS 2020; Abstract GS3-06.

Efficacy Summary by Germline BRCA1/2 Status



80 25 20 60 15.6 Nonths 12 % **a** 40 10.9 33% 19% 4.9 20 4.6 44 5 2.5 6% 6% 1.6 0 0 SG TPC SG TPC Median PFS Median OS Median PFS Median OS (n=16) (n=18) (n=133) (n=125) Germline BRCA1/2 Positive Germline BRCA1/2 Negative Germline BRCA1/2 Positive Germline BRCA1/2 Negative (n=34) (n=258) (n=34) (n=258) SG TPC

ORR by BRCA1/2 Status

PFS and OS by BRCA1/2 Status

Assessed in the brain metastases-negative population. ORR and PFS are assessed by BICR.

BICR, blind independent central review; BRCA, breast cancer gene; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; SG, sacituzumab govitecan; TPC, treatment of physician's choice; Trop-2, trophoblast cell surface antigen-2.

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O PRACTIC

Hurvitz S et al. SABCS 2020; Abstract GS3-06.

Geicam/2014-03 (RegisTEM): A Prospective Registry of Unresectable Locally Advanced or Metastatic Breast Cancer: Characteristics of a Subset of Patients with Triple Negative Subtype

Jara C et al. SABCS 2020;Abstract PS7-25.



Conclusion

In this subset of patients with TN ABC due to recurrent disease, lung, lymph nodes and bone are the most frequent metastatic locations. The main firstand second-line therapies were CT in monotherapy.

Progression to the first-line conventional therapy (CT +/- bevacizumab) was reported in 51.1% patients with a median TTP of 4.7 mo (range 0.8-19.0) in the whole group, being similar in pts with TN in PT and PT/M1 (4.4 mo), and higher in patients with TN in M1 (7.1 mo), no statistically significant difference.

36% of the initial subset of patients reported to be treated in the third-line setting. Patients with TN only in M1 seem to have a longer time to progression from EBC.



What treatment would you recommend next for a 60-year-old woman with metastatic TNBC (BRCA wild type, PD-L1-positive) who experiences disease progression after 7 months of first-line atezolizumab/nab paclitaxel?

- 1. Gemcitabine
- 2. Capecitabine
- 3. Vinorelbine
- 4. Eribulin
- 5. Sacituzumab govitecan
- 6. Platinum-based chemotherapy
- 7. Other chemotherapy
- 8. Other



What treatment would you recommend next for a 60-year-old woman with metastatic TNBC (BRCA WT, PD-L1-positive) who experiences disease progression after 7 months of first-line atezolizumab/*nab* paclitaxel?



Survey of 25 breast cancer clinical investigators

Meet The Professor Management of Lung Cancer

Tuesday, February 23, 2021 12:00 PM – 1:00 PM ET

> Faculty Martin Reck, MD, PhD

> > Moderator Neil Love, MD



Thank you for joining us!

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