ATLAS OF MOLECULAR ONCOLOGY

Clinical and Translational Advances in the Management of Triple-Negative Breast Cancer

Faculty

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Sponsored by Research To Practice.
This program is supported by educational grants from Myriad Genetics Inc and Sanofi-Aventis.

From the publishers of:

Breast Cancer® UPDATE

CME Information: Clinical and Translational Advances in the Management of Triple-Negative Breast Cancer

OVERVIEW OF ACTIVITY

Triple-negative breast cancer (TNBC) represents a more aggressive, higher-risk phenotype with an increased incidence of distant recurrence and death compared to other types of breast cancer. Despite an overall increase in knowledge of the biologic and natural history of TNBC, inadequate effective therapies for this patient subset persist.

This unique educational activity will combine the powers of art and science to communicate current management strategies and emerging therapeutic options for TNBC. The *Atlas of Molecular Oncology: Clinical and Translational Advances in the Management of Triple-Negative Breast Cancer* will provide clinicians with a concise, easy-to-understand slide resource to facilitate knowledge and application of optimal therapeutic approaches.

TARGET AUDIENCE

This activity is intended for medical, surgical and radiation oncologists and other healthcare providers involved in the treatment of breast cancer.

LEARNING OBJECTIVES

- Appropriately integrate molecular and genetic testing to identify patients with triple-negative, basal-like and/or BRCA-mutated breast cancer.
- Communicate the prognostic implications of the triple-negative phenotype and its effect on established treatment selection.
- Recognize the pathologic commonalities between triple-negative and BRCA1/2-mutated breast cancer that confer selective sensitivity to therapeutic inhibition of PARP1.
- Explain the concept of synthetic lethality as it relates to the activity of PARP inhibitors in breast cancer.
- Describe the relative chemosensitivity of TNBC, and identify opportunities to maximize cytotoxic effects.
- Counsel appropriately selected patients about availability of and participation in ongoing clinical research studies focusing on the management of early and advanced TNBC.

ACCREDITATION STATEMENT

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CREDIT DESIGNATION STATEMENT

Research To Practice designates this educational activity for a maximum of 1.5 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

HOW TO USE THIS CME ACTIVITY

To receive credit, the participant should review the CME information, review the slides on the enclosed CD and complete the Post-test and Educational Assessment and Credit Form located in the back of this booklet or on our website at **CME.ResearchToPractice.com**.

CONTENT VALIDATION AND DISCLOSURES

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FACULTY — **Drs Carey** and **Winer** had no real or apparent conflicts of interest to disclose. The following faculty (and their spouses/partners) reported real or apparent conflicts of interest, which have been resolved through a conflict of interest resolution process: **Prof Ashworth** — Consulting Agreements: GlaxoSmithKline, Pfizer Inc; Patent: AstraZeneca Pharmaceuticals LP. **Dr Blackwell** — Consulting Agreements and Speakers Bureau: GlaxoSmithKline, Novartis Pharmaceuticals Corporation, Sanofi-Aventis; Paid Research: Abraxis BioScience Inc, a wholly owned subsidiary of Celgene Corporation, Bristol-Myers Squibb Company, Genentech BioOncology, GlaxoSmithKline. **Dr Perez** — Paid Research: AstraZeneca Pharmaceuticals LP, Genentech BioOncology, GlaxoSmithKline, Roche Laboratories Inc, Sanofi-Aventis.

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Atlas of Molecular Oncology — Available Online

A downloadable version of the PowerPoint presentations included in this program can also be found online at **www.ResearchToPractice.com/AMO-TripNeg10**. Each module contains approximately 20 to 30 slides highlighted by graphics and illustrations custom created for the project.

Post-test: Clinical and Translational Advances in the Management of Triple-Negative Breast Cancer

1. **In a Dana-Farber series of 116 patients with metastatic TNBC, the presence of _____ metastases at the time of first metastatic presentation was prognostic for worse overall survival.**
   a. Liver
   b. Lung
   c. Central nervous system
   d. Bone

2. **The principle of synthetic lethality explains how the use of PARP inhibitors can specifically kill tumor cells that are deficient in a DNA repair pathway.**
   a. True
   b. False

3. **Loibl and colleagues demonstrated that high _____ expression of PARP predicts a high pathologic complete response to neoadjuvant TAC therapy in early breast cancer.**
   a. Nuclear
   b. Cytoplasmic
   c. Both a and b

4. **A pooled analysis of two Phase III trials for patients with TNBC demonstrated _____ for patients who received ixabepilone and capecitabine compared to patients who received capecitabine alone.**
   a. Increased progression-free survival
   b. Decreased overall survival
   c. Increased overall response rate
   d. Both a and c
   e. None of the above

5. **Subpopulation analysis of the ATHENA trial demonstrated that patients with TNBC had an improved _____ with chemotherapy and bevacizumab compared to patients without TNBC.**
   a. Overall response rate
   b. Time to disease progression
   c. Overall survival
   d. None of the above

6. **A meta-analysis of three Phase III trials of bevacizumab for patients with metastatic breast cancer demonstrated that treatment with bevacizumab resulted in a _____ advantage for the subset of patients with TNBC.**
   a. Progression-free survival
   b. Overall survival
   c. Both a and b

7. **Platinum-based neoadjuvant chemotherapy is associated with high _____ rates in patients with TNBC.**
   a. Pathologic complete response
   b. Overall survival
   c. Progression-free survival
   d. None of the above

8. **The BALI-1 Phase II trial of cetuximab and cisplatin for patients with TNBC failed to meet its prespecified primary endpoint of response rate.**
   a. True
   b. False

9. **A study by Saura and colleagues found that the prevalence of BRCA1/2 germline mutations in patients with TNBC was _____.**
   a. Five percent
   b. 15 percent
   c. 36 percent
   d. 65 percent

10. **Overall survival was significantly improved in patients with TNBC in the Phase II trial of iniparib (BSI-201) combined with _____.**
    a. Bevacizumab
    b. Gemcitabine/carboplatin
    c. Cisplatin

11. **BRCA2-deficient cells are extremely sensitive to PARP inhibition in vitro.**
    a. True
    b. False

12. **The DNA repair enzyme PARP functions in _____ repair.**
    a. Base excision
    b. Mismatch
    c. Recombinational

Post-test answer key: 1c, 2a, 3b, 4d, 5d, 6a, 7a, 8a, 9c, 10b, 11a, 12a

Educational Assessment and Credit Form: Clinical and Translational Advances in the Management of Triple-Negative Breast Cancer

Research To Practice is committed to providing valuable continuing education for oncology clinicians, and your input is critical to helping us achieve this important goal. Please take the time to assess the activity you just completed, with the assurance that your answers and suggestions are strictly confidential.

PART ONE — Please tell us about your experience with this educational activity

How would you characterize your level of knowledge on the following topics?

4 = Excellent 3 = Good 2 = Adequate 1 = Suboptimal		
	BEFORE	**AFTER**
Mechanism of action of PARP inhibitors	4 3 2 1	4 3 2 1
Clinical trial evidence supporting anti-angiogenic therapy for the treatment of TNBC	4 3 2 1	4 3 2 1
Differential prognosis of breast cancer molecular subtypes	4 3 2 1	4 3 2 1
Chemosensitivity of TNBC	4 3 2 1	4 3 2 1
BRCA mutations and synthetic lethality	4 3 2 1	4 3 2 1
EGFR inhibition as a therapeutic option for TNBC	4 3 2 1	4 3 2 1

Was the activity evidence based, fair, balanced and free from commercial bias?

☐ Yes ☐ No

If no, please explain: .....

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Educational Assessment and Credit Form (continued)

Will this activity help you improve patient care? ▢ Yes ▢ No ▢ Not applicable

If no, please explain: .....

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Did the activity meet your educational needs and expectations?

▢ Yes ▢ No

If no, please explain: .....

.....

Please respond to the following learning objectives (LOs) by circling the appropriate selection:

4 = Yes 3 = Will consider 2 = No 1 = Already doing N/M = LO not met N/A = Not applicable

As a result of this activity, I will be able to:

- Appropriately integrate molecular and genetic testing to identify patients with triple-negative, basal-like and/or BRCA-mutated breast cancer. . . . . 4 3 2 1 N/M N/A
- Communicate the prognostic implications of the triple-negative phenotype and its effect on established treatment selection. . . . . 4 3 2 1 N/M N/A
- Recognize the pathologic commonalities between triple-negative and BRCA1/2-mutated breast cancer that confer selective sensitivity to therapeutic inhibition of PARP1. . . . . 4 3 2 1 N/M N/A
- Explain the concept of synthetic lethality as it relates to the activity of PARP inhibitors in breast cancer. . . . . 4 3 2 1 N/M N/A
- Describe the relative chemosensitivity of TNBC, and identify opportunities to maximize cytotoxic effects. . . . . 4 3 2 1 N/M N/A
- Counsel appropriately selected patients about availability of and participation in ongoing clinical research studies focusing on the management of early and advanced TNBC. . . . . 4 3 2 1 N/M N/A

What other practice changes will you make or consider making as a result of this activity?

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What additional information or training do you need on the activity topics or other oncology-related topics? .....

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Additional comments about this activity: .....

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As part of our ongoing, continuous quality-improvement effort, we conduct postactivity follow-up surveys to assess the impact of our educational interventions on professional practice. Please indicate your willingness to participate in such a survey.

☐ Yes, I am willing to participate in a follow-up survey.

☐ No, I am not willing to participate in a follow-up survey.

PART TWO — Please tell us about the faculty for this educational activity

4 = Excellent 3 = Good 2 = Adequate 1 = Suboptimal		
Faculty	**Knowledge of subject matter**	**Effectiveness as an educator**
Prof Alan Ashworth, FRS	4 3 2 1	4 3 2 1
Kimberly L Blackwell, MD	4 3 2 1	4 3 2 1
Eric P Winer, MD	4 3 2 1	4 3 2 1
Lisa A Carey, MD	4 3 2 1	4 3 2 1
Edith A Perez, MD	4 3 2 1	4 3 2 1

Educational Assessment and Credit Form (continued)

Please recommend additional faculty for future activities: .....

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REQUEST FOR CREDIT — Please print clearly

Name: ..... Specialty: .....

Professional Designation:

☐ MD ☐ DO ☐ PharmD ☐ NP ☐ RN ☐ PA ☐ Other: .....

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Educational Assessment and Credit Form (continued)

I certify my actual time spent to complete this educational activity to be _____ hour(s).

Signature: ..... Date: .....

AMOTripNeg10

To obtain a certificate of completion and receive credit for this activity, please complete the Post-test, fill out the Educational Assessment and Credit Form and fax both to (800) 447-4310, or mail both to Research To Practice, One Biscayne Tower, 2 South Biscayne Boulevard, Suite 3600, Miami, FL 33131. You may also complete the Post-test and Educational Assessment online at CME.ResearchToPractice.com.

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Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not meant to serve as a guideline for patient management.

Any procedures, medications or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patients' conditions and possible contra-indications or dangers in use, review of any applicable manufacturer's product information and comparison with recommendations of other authorities.

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Last review date: December 2010
Release date: December 2010
Expiration date: December 2011
Estimated time to complete: 1.5 hours