

Thyroid Cancer™

U P D A T E

Conversations with Oncology Investigators
Bridging the Gap between Research and Patient Care

FACULTY INTERVIEWS

Steven I Sherman, MD

Marcia S Brose, MD, PhD

EDITOR

Neil Love, MD



Thyroid Cancer Update

A Continuing Medical Education Audio Series

OVERVIEW OF ACTIVITY

Thyroid carcinoma, one of the 10 most common types of cancer in the United States, has doubled in incidence during the past decade. In 2013 approximately 60,220 new cases will be diagnosed, with more than 1,800 deaths. This heterogeneous disease — comprising differentiated, medullary and anaplastic thyroid carcinoma — has historically been the purview of endocrinologists. Most patients will be cured with local treatments and radioactive iodine. Medical oncology intervention typically only occurs for those patients with progressive metastatic disease. Only 2 new agents have been approved for the treatment of this disease in the past 15 years — cabozantinib and vandetanib — although several tyrosine kinase inhibitors (TKIs) (eg, sorafenib) have been investigated and used in the treatment of advanced disease and ongoing research is evaluating the role of other targeted treatments. In order to offer optimal patient care — including the option of clinical trial participation — the practicing medical oncologist must be well informed of these advances. To bridge the gap between research and patient care, *Thyroid Cancer Update* uses one-on-one conversations with leading oncology investigators discussing the interdisciplinary management of this prevalent malignancy. By providing access to the latest research developments and expert perspectives on the disease, this CME program assists medical oncologists in the formulation of up-to-date clinical management strategies.

LEARNING OBJECTIVES

- Identify the role of tumor markers in the management of different histologic subtypes of thyroid carcinoma.
- Use currently available data sets to guide the rational integration of TKIs into the treatment of unresectable, locally advanced and metastatic thyroid carcinoma.
- Formulate strategies to mitigate TKI-related side effects to maintain patients on active therapy while minimizing its impact on quality of life.
- Develop an understanding of emerging efficacy and side-effect data with novel agents (eg, mTOR inhibitors, BRAF inhibitors) under evaluation for thyroid cancer.
- Counsel appropriately selected patients with thyroid cancer about the availability of ongoing clinical trials.

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 enduring material for a maximum of 1.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

HOW TO USE THIS CME ACTIVITY

This CME activity consists of an audio component. To receive credit, the participant should review the CME information, listen to the CD, complete the Post-test with a score of 75% or better and fill out the Educational Assessment and Credit Form located in the back of this booklet or on our website at ResearchToPractice.com/TCU113/CME.

This activity is supported by educational grants from Bayer HealthCare Pharmaceuticals/Onyx Pharmaceuticals Inc and Exelixis Inc.

Last review date: October 2013; Release date: October 2013; Expiration date: October 2014

If you would like to discontinue your complimentary subscription to *Thyroid Cancer Update*, please email us at Info@ResearchToPractice.com, call us at (800) 648-8654 or fax us at (305) 377-9998. Please include your full name and address, and we will remove you from the mailing list.

Thyroid Cancer™

U P D A T E

FACULTY AFFILIATIONS



Steven I Sherman, MD

Chair and Professor of Medicine
Chairman of International Thyroid
Oncology Group (ITOG)
The University of Texas
MD Anderson Cancer Center
Department of Endocrine
Neoplasia and Hormonal
Disorders
Houston, Texas



Marcia S Brose, MD, PhD

Assistant Professor
Abramson Cancer Center
Department of Otorhinolaryngology:
Head and Neck Surgery
Department of Medicine
Division of Hematology/Oncology
Philadelphia, Pennsylvania

EDITOR



Neil Love, MD

Research To Practice
Miami, Florida

CONTENT VALIDATION AND DISCLOSURES

Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess potential conflicts of interest with faculty, planners and managers of CME activities. Real or apparent conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

FACULTY — 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: **Dr Sherman** — Consulting Agreements: Amgen Inc, Bayer HealthCare Pharmaceuticals, Eisai Inc, Exelixis Inc, Lilly, Novo Nordisk A/S, Veracyte Inc; Contracted Research: Genzyme Corporation, Pfizer Inc. **Dr Brose** — Advisory Committee: AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Eisai Inc, Onyx Pharmaceuticals Inc; Consulting Agreements: AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Eisai Inc, GlaxoSmithKline, Onyx Pharmaceuticals Inc; Contracted Research: AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Eisai Inc, Genentech BioOncology, Novartis Pharmaceuticals Corporation, Onyx Pharmaceuticals Inc, Roche Laboratories Inc.

EDITOR — Dr Love is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Algeta US, Allos Therapeutics, Amgen Inc, ArQule Inc, Astellas, AstraZeneca Pharmaceuticals LP, Aveo Pharmaceuticals, Bayer HealthCare Pharmaceuticals, Biodesix Inc, Biogen Idec, Boehringer Ingelheim Pharmaceuticals Inc, Bristol-Myers Squibb Company, Celgene Corporation, Daiichi Sankyo Inc, Dendreon Corporation, Eisai Inc, EMD Serono Inc, Exelixis Inc, Foundation Medicine Inc, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Incyte Corporation, Lilly, Medivation Inc, Merck, Millennium: The Takeda Oncology Company, Mundipharma International Limited, Novartis Pharmaceuticals Corporation, Novocure, Onyx Pharmaceuticals Inc, Prometheus Laboratories Inc, Regeneron Pharmaceuticals, Sanofi, Seattle Genetics, Spectrum Pharmaceuticals Inc and Teva Oncology.

RESEARCH TO PRACTICE STAFF AND EXTERNAL REVIEWERS — The scientific staff and reviewers for Research To Practice have no real or apparent conflicts of interest to disclose.

This educational activity contains discussion of published and/or investigational uses of agents that are not indicated by the Food and Drug Administration. Research To Practice does not recommend the use of any agent outside of the labeled indications. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings. The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.

QUESTIONS (PLEASE CIRCLE ANSWER):

- 1. During 2013 approximately 60,000 new cases of thyroid cancer will be diagnosed in the United States, with the _____ histologic type comprising more than 90% of them.**
 - Medullary
 - Anaplastic
 - Differentiated
- 2. The Phase III DECISION study of sorafenib in locally advanced or metastatic, radioactive iodine-refractory differentiated thyroid cancer achieved its primary endpoint of a statistically significant improvement in progression-free survival compared to placebo.**
 - True
 - False
- 3. A criticism of the Phase III EXAM study of cabozantinib versus placebo for patients with unresectable, locally advanced or metastatic medullary thyroid cancer was that the eligibility criteria did not require evidence of recent disease progression for study entry.**
 - True
 - False
- 4. Which of the following is a potential side effect associated with administration of sorafenib?**
 - Hand-foot skin reaction
 - Fatigue
 - Sarcopenia
 - All of the above
- 5. Which of the following is a potential adverse side effect associated with vandetanib?**
 - Renal failure
 - Gastrointestinal perforation
 - Prolongation of the QT interval
- 6. What percent of patients with papillary thyroid cancer harbor a BRAF V600E mutation?**
 - 10%
 - 20%
 - 50%
- 7. A study from Memorial Sloan-Kettering Cancer Center demonstrated that the MEK inhibitor selumetinib could induce reacquisition of radioactive iodine uptake in patients with radioactive iodine-refractory metastatic thyroid cancer.**
 - True
 - False
- 8. Which of the following agents is FDA approved for the treatment of medullary thyroid cancer?**
 - Cabozantinib
 - Vandetanib
 - Sorafenib
 - Vemurafenib
 - Both a and b
 - a, b and c

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 1 — 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
Results of the Phase III DECISION study of sorafenib in locally advanced or metastatic, radioactive iodine-refractory differentiated thyroid cancer	4 3 2 1	4 3 2 1
Role of tumor markers — calcitonin and CEA — in monitoring patients with metastatic medullary thyroid cancer	4 3 2 1	4 3 2 1
Critical appraisal of the Phase III pivotal EXAM trial results with cabozantinib in progressing, unresectable, locally advanced or metastatic medullary thyroid cancer	4 3 2 1	4 3 2 1
Efficacy of cabozantinib for skeletal metastases from medullary or differentiated thyroid cancer	4 3 2 1	4 3 2 1
Outcomes of the Phase III ZETA study of vandetanib in locally advanced or metastatic medullary cancer	4 3 2 1	4 3 2 1
Emerging evidence for the efficacy of vemurafenib in the treatment of BRAF V600E-mutant thyroid cancer	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:

Please identify how you will change your practice as a result of completing this activity (select all that apply).

This activity validated my current practice Create/revise protocols, policies and/or procedures Change the management and/or treatment of my patients
 Other (please explain):

If you intend to implement any changes in your practice, please provide 1 or more examples:

.....

The content of this activity matched my current (or potential) scope of practice.

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:

- Identify the role of tumor markers in the management of different histologic subtypes of thyroid carcinoma.4 3 2 1 N/M N/A
- Use currently available data sets to guide the rational integration of TKIs into the treatment of unresectable, locally advanced and metastatic thyroid carcinoma.4 3 2 1 N/M N/A
- Formulate strategies to mitigate TKI-related side effects to maintain patients on active therapy while minimizing its impact on quality of life.4 3 2 1 N/M N/A
- Develop an understanding of emerging efficacy and side-effect data with novel agents (eg, mTOR inhibitors, BRAF inhibitors) under evaluation for thyroid cancer.4 3 2 1 N/M N/A
- Counsel appropriately selected patients with thyroid cancer about the availability of ongoing clinical trials.4 3 2 1 N/M N/A

EDUCATIONAL ASSESSMENT AND CREDIT FORM (continued)

Please describe any clinical situations that you find difficult to manage or resolve that you would like to see addressed in future educational activities:

Would you recommend this activity to a colleague?

Yes No If no, please explain:.....

Additional comments about this activity:

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 2 — Please tell us about the faculty and editor for this educational activity

	4 = Excellent	3 = Good	2 = Adequate	1 = Suboptimal
Faculty	Knowledge of subject matter			Effectiveness as an educator
Steven I Sherman, MD	4	3	2	1
Marcia S Brose, MD, PhD	4	3	2	1
Editor	Knowledge of subject matter			Effectiveness as an educator
Neil Love, MD	4	3	2	1

Please recommend additional faculty for future activities:

Other comments about the faculty and editor for this activity:

REQUEST FOR CREDIT — Please print clearly

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

Professional Designation:

MD DO PharmD NP RN PA Other

Street Address:..... Box/Suite:.....

City, State, Zip:.....

Telephone:..... Fax:.....

Email:.....

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

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

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

The expiration date for this activity is October 2014. 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 www.ResearchToPractice.com/TCU113/CME.

Thyroid Cancer™

U P D A T E

Editor	Neil Love, MD
Director, Clinical Content and CPD/CME	Kathryn Ault Ziel, PhD
Scientific Director	Richard Kaderman, PhD
Editorial	Clayton Campbell Marilyn Fernandez, PhD Gloria Kelly, PhD Kemi Obajimi, PhD Margaret Peng
Creative Manager	Fernando Rendina
Graphic Designers	Tamara Dabney Silvana Izquierdo
Managing Editor	Kirsten Miller
Senior Production Editor	Aura Herrmann
Copy Editors	Margo Harris Rosemary Hulce Pat Morrissey/Havlin Alexis Oneca
Production Manager	Tracy Potter
Audio Production	Frank Cesarano
Web Master	John Ribeiro
Faculty Relations Manager	Lisa Suarez
Continuing Education Administrator for Nursing	Karen Gabel Speroni, BSN, MHSA, PhD, RN
Contact Information	Neil Love, MD Research To Practice One Biscayne Tower 2 South Biscayne Boulevard, Suite 3600 Miami, FL 33131 Fax: (305) 377-9998 Email: DrNeilLove@ResearchToPractice.com
For CME/CNE Information	Email: CE@ResearchToPractice.com

Copyright © 2013 Research To Practice. All rights reserved.

The compact disc, Internet content and accompanying printed material are protected by copyright. No part of this program may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or utilizing any information storage and retrieval system, without written permission from the copyright owner.

The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.

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 contraindications or dangers in use, review of any applicable manufacturer's product information and comparison with recommendations of other authorities.

Thyroid Cancer™

U P D A T E

Copyright © 2013 Research To Practice.

This activity is supported by educational grants from
Bayer HealthCare Pharmaceuticals/Onyx Pharmaceuticals Inc and Exelixis Inc.

Research To Practice®

Sponsored by Research To Practice.

Last review date: October 2013

Release date: October 2013

Expiration date: October 2014

Estimated time to complete: 1.5 hours