

Gastrointestinal Cancer™

U P D A T E

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

FACULTY INTERVIEWS

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Gastrointestinal Cancer Update

A Continuing Medical Education Audio Series

OVERVIEW OF ACTIVITY

Colorectal cancer (CRC) is a common and potentially lethal type of cancer, and its clinical management is constantly evolving. Although “non-CRC” gastrointestinal (GI) tumors are less frequently encountered individually, the cancer-related deaths in that subcategory surpass those attributed to CRC. Published results from ongoing trials continuously lead to the emergence of novel biomarkers and new therapeutic targets and regimens, thereby altering existing management algorithms. 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, *Gastrointestinal Cancer Update* uses one-on-one discussion with leading GI oncology investigators. By providing access to the latest scientific developments and the perspectives of experts in the field, this CME activity assists medical oncologists with the formulation of up-to-date management strategies.

LEARNING OBJECTIVES

- Apply existing and emerging data to the best-practice management of diverse GI cancers.
- Communicate the benefits and risks of approved anti-VEGF, anti-EGFR and other targeted biologic therapies to patients with metastatic CRC (mCRC), and develop an evidence-based algorithm to sequence available options based on disease- and patient-specific characteristics.
- Appraise the rationale for and clinical data with investigational anti-PD-1 and/or anti-PD-L1 antibodies in patients with CRC or gastric cancer.
- Consider age, performance status and other clinical factors in the selection of systemic therapy for patients with metastatic pancreatic adenocarcinoma.
- Coordinate comprehensive biomarker analysis for patients diagnosed with advanced CRC, and use this information to guide evidence-based care for these patients.
- Develop an evidence-based plan of care for the treatment of peritoneal carcinomatosis of CRC origin.
- Assess available data with currently approved and investigational agents with documented activity in gastroesophageal cancer, and develop a clinical algorithm for optimal patient care including the option of participating in clinical research.
- Counsel appropriately selected patients with GI cancer about participation in ongoing clinical trials.

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Please note, this program has been specifically designed for the following ABIM specialty: **medical oncology**.

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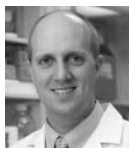
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CME INFORMATION

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FACULTY — The following faculty (and their spouses/partners) reported relevant conflicts of interest, which have been resolved through a conflict of interest resolution process: **Dr Kopetz** — Consulting Agreements: Amgen Inc, Array BioPharma Inc, Bayer HealthCare Pharmaceuticals, Bristol-Myers Squibb Company, Genentech BioOncology, GlaxoSmithKline, Merrimack Pharmaceuticals Inc, Roche Laboratories Inc, Sanofi, Sysmex Inostics, Taiho Oncology Inc; **Contracted Research:** Agendia, Amgen Inc, Biocartis, Genentech BioOncology, GlaxoSmithKline, Guardant Health Inc, Roche Laboratories Inc, Sanofi, Sysmex Inostics. **Dr Ryan** — **Advisory Committee:** Pfizer Inc.

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SELECT PUBLICATIONS

- Becerra C et al. **Phase Ib/II study of cancer stem cell (CSC) inhibitor BBI608 combined with paclitaxel in advanced gastric and gastroesophageal junction (GEJ) adenocarcinoma.** *Proc ASCO* 2015;**Abstract 4069.**
- Cercek A et al. **Treatment of peritoneal carcinomatosis of colorectal origin.** *Am Soc Clin Oncol Educ Book* 2015;35:e208-11.
- Chan CH et al. **A critical look at local-regional management of peritoneal metastasis.** *Hematol Oncol Clin North Am* 2015;29(1):153-8.
- Conroy T et al; PRODIGE Intergroup. **FOLFIRINOX versus gemcitabine for metastatic pancreatic cancer.** *N Engl J Med* 2011;364(19):1817-25.
- Grothey A et al; CORRECT Study Group. **Regorafenib monotherapy for previously treated metastatic colorectal cancer (CORRECT): An international, multicentre, randomised, placebo-controlled, phase 3 trial.** *Lancet* 2013;381(9863):303-12.
- Hong DS et al. **Phase Ib study of vemurafenib in combination with irinotecan and cetuximab in patients with BRAF-mutated metastatic colorectal cancer and advanced cancers.** *Proc ASCO* 2015;**Abstract 3511.**
- Le DT et al. **PD-1 blockade in tumors with mismatch-repair deficiency.** *N Engl J Med* 2015;372(26):2509-20.
- Li J et al; CONCUR Investigators. **Regorafenib plus best supportive care versus placebo plus best supportive care in Asian patients with previously treated metastatic colorectal cancer (CONCUR): A randomised, double-blind, placebo-controlled, phase 3 trial.** *Lancet Oncol* 2015;16(6):619-29.
- Mayer RJ et al; RECOURSE Study Group. **Randomized trial of TAS-102 for refractory metastatic colorectal cancer.** *N Engl J Med* 2015;372(20):1909-19.
- Meric-Bernstam F et al. **A decision support framework for genomically informed investigational cancer therapy.** *J Natl Cancer Inst.* 2015;107(7).
- Muro K et al. **Relationship between PD-L1 expression and clinical outcomes in patients (Pts) with advanced gastric cancer treated with the anti-PD-1 monoclonal antibody pembrolizumab (Pembro; MK-3475) in KEYNOTE-012.** *Gastrointestinal Cancers Symposium* 2015;**Abstract 3.**
- Phase III study evaluating the use of systemic chemotherapy and chemohyperthermia intraperitoneal preoperatively (CHIP) and after maximum resection of peritoneal carcinomatosis originating with colorectal cancer.** **NCT00769405**
- Shah MA et al. **The BRIGHTER trial: A phase III randomized double-blind study of BBI608 + weekly paclitaxel versus placebo (PBO) + weekly paclitaxel in patients (pts) with pretreated advanced gastric and gastro-esophageal junction (GEJ) adenocarcinoma.** *Proc ASCO* 2015;**Abstract TPS4139.**
- Siena S et al. **Trastuzumab and lapatinib in HER2-amplified metastatic colorectal cancer patients (mCRC): The HERACLES trial.** *Proc ASCO* 2015;**Abstract 3508.**
- Tabernero J et al. **Prognostic factors of survival in a randomized phase III trial (MPACT) of weekly nab-paclitaxel plus gemcitabine versus gemcitabine alone in patients with metastatic pancreatic cancer.** *Oncologist* 2015;20(2):143-50.
- Verwaal VJ et al. **Randomized trial of cytoreduction and hyperthermic intraperitoneal chemotherapy versus systemic chemotherapy and palliative surgery in patients with peritoneal carcinomatosis of colorectal cancer.** *J Clin Oncol* 2003;21(20):3737-43.
- Von Hoff DD et al. **Increased survival in pancreatic cancer with nab-paclitaxel plus gemcitabine.** *N Engl J Med* 2013;369(18):1691-703.

QUESTIONS (PLEASE CIRCLE ANSWER):

1. A recent study published in *The New England Journal of Medicine* demonstrated that patients with mCRC and _____ responded to treatment with the immune checkpoint inhibitor pembrolizumab.
 - a. MSI-high tumors
 - b. Microsatellite stable tumors
 - c. Both a and b
 - d. None of the above
2. Which of the following is the mechanism of action of TAS-102?
 - a. Oral nucleoside
 - b. Anti-angiogenic
 - c. Antibody-drug conjugate
 - d. Anti-PD-1 antibody
3. Results of a randomized Phase III trial of TAS-102 for patients with mCRC that is refractory to standard therapies _____ a statistically significant improvement in overall survival with TAS-102 and best supportive care (BSC) compared to placebo/BSC.
 - a. Demonstrated
 - b. Did not demonstrate
4. Approximately what percent of patients with colon cancer have HER2-amplified disease?
 - a. $\leq 5\%$
 - b. 15% to 20%
 - c. 30% to 35%
 - d. 60% to 65%
5. Results of the Phase II HERACLES study demonstrated that approximately one third of patients with HER2-amplified mCRC responded to the combination of trastuzumab and lapatinib.
 - a. True
 - b. False
6. Which of the following statements is true regarding the toxicity associated with regorafenib?
 - a. Dose reduction can be used to mitigate adverse events
 - b. Severe side effects include hand-foot reaction, fatigue and diarrhea
 - c. Both a and b
 - d. None of the above
7. A Phase Ib study of vemurafenib in combination with irinotecan and cetuximab demonstrated the combination to be efficacious for patients with _____ mCRC.
 - a. BRAF-mutated
 - b. HER2-amplified
 - c. MSI-high
8. An ongoing Phase III French trial is evaluating systemic chemotherapy with or without _____ as treatment for patients undergoing cytoreductive surgery for peritoneal carcinomatosis of CRC origin.
 - a. Anti-PD-1 therapy
 - b. Hyperthermic intraperitoneal chemotherapy (HIPEC)
 - c. TAS-102

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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
Correlation between mismatch repair status and benefit from immune checkpoint blockade in mCRC	4 3 2 1	4 3 2 1
Survival benefit with the recently FDA-approved oral nucleoside TAS-102 in refractory mCRC and considerations for the future sequencing of regorafenib and TAS-102	4 3 2 1	4 3 2 1
Biologic rationale for and preliminary clinical data with anti-PD-1/PD-L1 antibodies for patients with mCRC or advanced gastric cancer	4 3 2 1	4 3 2 1
Rationale for the investigation of cancer stem cell inhibitors in gastric cancer	4 3 2 1	4 3 2 1
HERACLES: Results of a Phase II trial of trastuzumab and lapatinib in HER2-amplified mCRC	4 3 2 1	4 3 2 1
Clinical significance of and emerging management strategies for BRAF V600E-positive CRC	4 3 2 1	4 3 2 1

Practice Setting:

- Academic center/medical school Community cancer center/hospital Group practice
 Solo practice Government (eg, VA) Other (please specify).....

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:

- Apply existing and emerging data to the best-practice management of diverse GI cancers. 4 3 2 1 N/M N/A
- Communicate the benefits and risks of approved anti-VEGF, anti-EGFR and other targeted biologic therapies to patients with metastatic CRC (mCRC), and develop an evidence-based algorithm to sequence available options based on disease- and patient-specific characteristics. 4 3 2 1 N/M N/A
- Appraise the rationale for and clinical data with investigational anti-PD-1 and/or anti-PD-L1 antibodies in patients with CRC or gastric cancer. 4 3 2 1 N/M N/A
- Consider age, performance status and other clinical factors in the selection of systemic therapy for patients with metastatic pancreatic adenocarcinoma. ... 4 3 2 1 N/M N/A

EDUCATIONAL ASSESSMENT AND CREDIT FORM (continued)

- Coordinate comprehensive biomarker analysis for patients diagnosed with advanced CRC, and use this information to guide evidence-based care for these patients. 4 3 2 1 N/M N/A
- Develop an evidence-based plan of care for the treatment of peritoneal carcinomatosis of CRC origin. 4 3 2 1 N/M N/A
- Assess available data with currently approved and investigational agents with documented activity in gastroesophageal cancer, and develop a clinical algorithm for optimal patient care including the option of participating in clinical research. 4 3 2 1 N/M N/A
- Counsel appropriately selected patients with GI cancer about participation in ongoing clinical trials. 4 3 2 1 N/M N/A

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:

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			
Scott Kopetz, MD, PhD	4	3	2	1	4	3	2	1
David P Ryan, MD	4	3	2	1	4	3	2	1
Editor	Knowledge of subject matter				Effectiveness as an educator			
Neil Love, MD	4	3	2	1	4	3	2	1

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