



Illustration by Erin Moore

CLINICAL Colorectal Cancer

and Other Gastrointestinal
Malignancies

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Based on patient-reported outcomes, a high proportion of patients experienced clinically significant symptoms during pelvic chemoradiotherapy, with diarrhea and urgency being the most commonly reported. Delivery of induction chemotherapy was associated with lower odds of experiencing urgency, bleeding, and tenesmus on patient-reported outcomes during subsequent chemoradiotherapy, with no significant impact on diarrhea and rectal pain.
- 175 Clinicopathologic Characteristics of *HER2*-positive Metastatic Colorectal Cancer and Detection of *HER2* in Plasma Circulating Tumor DNA**
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The clinicopathologic characteristics of patients with human epidermal growth factor receptor 2 (*HER2*)-positive metastatic colorectal cancer were summarized. A targeted next-generation sequencing method was applied to assess *HER2* copy number variation and explore the concordance between paired primary tumor samples and plasma circulating tumor DNA (ctDNA). The *HER2* concordance rate between tumor samples and ctDNA was 66.7%. Tumor burden changes in ctDNA were consistent with imaging evaluation.
- 183 Aflibercept Plus FOLFIRI for Second-line Treatment of Metastatic Colorectal Cancer: Observations from the Global Aflibercept Safety and Health-Related Quality-of-Life Program (ASQoP)**
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This study evaluated safety and quality of life in patients with metastatic colorectal cancer undergoing treatment with aflibercept and FOLFIRI (fluorouracil, leucovorin, irinotecan). Most patients treated with this combination experienced either improvement or stability in quality of life scores. Aflibercept plus FOLFIRI is tolerable in the treatment of patients with metastatic colorectal cancer with a safety profile similar to that seen in previous studies of these individual medications.

- 192 **Anti-Mesothelin Recombinant Immunotoxin Therapy for Colorectal Cancer**
Adam Cerise, Tapan K. Bera, Xiufen Liu, Junxia Wei, Ira Pastan
Mesothelin is expressed at high levels on the surface of colorectal carcinoma cells, mesothelioma, and pancreatic, ovarian, and gastric cancer. Immunotoxins targeting Mesothelin can kill colorectal cancer cell lines in vitro and can inhibit growth and cause regressions in mice. Combination therapy with actinomycin D resulted in > 90% tumor volume reduction with 50% complete regressions.
- 200 **Efficacy and Safety of Two Neoadjuvant Strategies With Bevacizumab in MRI-Defined Locally Advanced T3 Resectable Rectal Cancer: Final Results of a Randomized, Noncomparative Phase 2 INOVA Study**
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The INOVA randomized phase II study compared 2 neoadjuvant strategies for locally advanced rectal cancers. Final results up to 5 years of follow-up showed that neoadjuvant chemotherapy does not increase late toxicities and may have the potential to increase survival outcomes.
- 209 **The Financial Impact of Fractionation Scheme and Treatment Planning Method for Rectal Cancer in the United States**
Assaf Moore, Robert B. Den, Noa Gordon, Michal Sarfaty, Yulia Kundel, Baruch Brenner, Daniel A. Goldstein
We performed a population-based analysis of the total annual cost of various radiotherapy regimens for rectal cancer in the United States. The target population was estimated using the Surveillance, Epidemiology, and End Results database and radiotherapy costs by the Hospital Outpatient Prospective Payment System. Short-course radiotherapy may have the potential to save US \$106 to 232 million annually compared with long-course chemoradiotherapy, likely without impacting outcomes. Intensity-modulated radiotherapy increases the cost of treatment by 34% and 50% for short-course and long-course chemoradiotherapy, respectively.
- 218 **Novel Prognostic Factors in Resected Small Bowel Adenocarcinoma**
Brandon M. Huffman, Zhaohui Jin, Siddhartha Yadav, Shruti Patel, David M. Nagorney, Mark J. Truty, Robert R. McWilliams, Thorvardur R. Halfdanarson, Amit Mahipal
Small bowel adenocarcinoma is a rare malignancy with variable survival depending on multiple factors. Increased age, increased tumor stage, and low lymphocyte-to-monocyte ratio before surgery are associated with poor overall survival. Patients with stage III disease showed improved survival when provided adjuvant chemotherapy.
- 226 **Postoperative Radiation for Pathologic Stage T4 Colon Cancers Receiving Adjuvant Chemotherapy**
Ofer Margalit, Ronac Mamtani, Yaacov R. Lawrence, Yu-Xiao Yang, Kim A. Reiss, Talia Golan, Naama Halpern, Dan Aderka, Bruce Giantonio, Einat Shacham-Shmueli, Ben Boursi
Previous studies have suggested a benefit for postoperative radiation in nonmetastatic pathologic T4 colon cancers in patients who did not receive adjuvant chemotherapy. We assessed the survival benefit of postoperative radiation in individuals with T4 colon cancers who received adjuvant chemotherapy using the National Cancer Data Base. There was no improvement in overall survival in both individuals with negative and with positive surgical margins.

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- e275 **Accelerated Colorectal Polyposis in an Immunosuppressed Patient With a Small Bowel Transplant Treated With Teduglutide: Case Report and Review of Literature**
Alvin T. George, Michelle Leong, Mohammad Shokouh-Amiri, Enrico Benedetti, Robert E. Carroll

- e280 The Prevalence of *DPYD*9A* (c.85T>C) Genotype and the Genotype-Phenotype Correlation in Patients with Gastrointestinal Malignancies Treated With Fluoropyrimidines: Updated Analysis**
Anu Singh Maharjan, Gwendolyn A. McMillin, Girijesh Kumar Patel, Saad Awan, William R. Taylor, Sachin Pai, Arthur E. Frankel, Cindy Nelson, Bin Wang, Peter Joel Hosein, Ajay P. Singh, Moh'd Khushman
In our previous study of a cohort of 28 patients, *DPYD*9A* (c.85T>C) was the most commonly diagnosed variant (46%) and there was a noticeable genotype-phenotype correlation. In this study we genotyped a larger cohort of a mixed racial background to explore the prevalence of *DPYD*9A* variant and to confirm the genotype-phenotype correlation. In this updated analysis, the prevalence of heterozygous and homozygous *DPYD*9A* genotypes were 41% and 10%, respectively; the correlation between *DPYD*9A* genotype and dihydropyrimidine dehydrogenase clinical phenotype was not reproduced. The noticeable correlation that we previously reported is likely because of small sample size and selection bias.
- e287 Safety and Oncological Outcomes of Bevacizumab Therapy in Patients With Advanced Colorectal Cancer and Self-expandable Metal Stents**
Vilma Pacheco-Barcia, Rebeca Mondéjar, Olga Martínez-Sáez, Federico Longo, Jose Andrés Moreno, Jacobo Rogado, Olga Donnay, Cecilio Santander, Alfredo Carrato, Ramon Colomer
Colorectal cancer can present with bowel obstruction, and self-expandable metal stents can be an alternative to surgery. Data on the safety of stents during bevacizumab treatment are lacking. The major early risk is perforation that can increase up to 12% during bevacizumab treatment. In patients that would benefit from self-expandable metal stents, we should consider the risks associated with systemic therapies, taking into account the improvement in survival with bevacizumab.
- e294 Use of Bevacizumab for Elderly Patients With Stage IV Colon Cancer: Analysis of SEER-Medicare Data**
Gabriel T. Raab, Aijing Lin, Grace Clarke Hillyer, Deborah Keller, Daniel S. O'Neil, Melissa Kate Accordino, Donna L. Buono, Chin Hur, Ravi P. Kiran, Jason D. Wright, Dawn L. Hershman, Alfred I. Neugut
In this study, we used the Surveillance, Epidemiology, and End Results-Medicare dataset to analyze the trends in prescription as well as characteristics associated with the use of first-line bevacizumab in patients with metastatic colon cancer. We found that bevacizumab is used 62% of the time as part of first-line therapy for stage IV colon cancer. However, since 2005, bevacizumab and first-line biologics use in general has been slowly decreasing. This study illustrates new practice patterns associated with first-line biologics receipt for treatment of metastatic colon cancer.
- e300 Lung Metastasis Predicts Better Prognosis in Metastatic Colorectal Cancer With Mutated *KRAS***
Ofer Margalit, Einat Shacham-Shmueli, Yaacov R. Lawrence, Yu-Xiao Yang, Kim A. Reiss, Talia Golan, Raashi Mamtani, Naama Halpern, Dan Aderka, Bruce Giantonio, Ben Boursi
We used the National Cancer Database to identify 58,044 metastatic colorectal cancer (mCRC) patients with a synchronous single site of metastasis. We evaluated prognosis in these patients according to several clinical and genetic variables. Individuals with lung metastasis and mutant Kirsten ras (*KRAS*) had the best prognosis, followed by those with liver metastasis, whereas those with bone or brain metastasis had the worst prognosis. Single-site metastasis to the lungs was associated with better prognosis in patients with mCRC, specifically among those with *KRAS* mutant tumors.