

# An Oncology Nurses' Guide to New Targeted Agents for Metastatic Colorectal Cancer

Keith McIntyre, MSN, CRNP



© Sebastian Kaulitzki/Thinkstock

**Background:** Colorectal cancer (CRC) that has metastasized before being discovered, or reoccurs following surgery, remains a major treatment challenge. Trials have established the usefulness of antiangiogenic agents and new regimens in prolonging survival in patients with advanced disease. In the United States, the antiangiogenic agents approved for treating metastatic CRC often are combined with traditional chemotherapeutic agents and include bevacizumab (Avastin®), ziv-aflibercept (Zaltrap®), and regorafenib (Stivarga®).

**Objectives:** This article reviews factors that guide the development of a nursing plan for monitoring and managing patients who are receiving antiangiogenic therapies.

**Methods:** Regorafenib and ziv-aflibercept, two newer agents that nurses and other healthcare professionals may have had less experience with, were reviewed.

**Findings:** The key to maximizing the potential benefit of these agents is understanding where these new therapies fit in the overall scheme of treatment options and how to help patients tolerate treatment.

Keith McIntyre, MSN, CRNP, is an adult nurse practitioner in the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University in Baltimore, MD. The author takes full responsibility for the content of the article. This article originally appeared as a continuing education activity, "New Targeted Agents in Metastatic Colorectal Cancer: An Oncology Nurses' Guide," on the Medscape website (<http://www.medscape.org/viewarticle/819087>). Medscape has granted permission to adapt. Editorial support was provided by David Modrak, PhD (freelance medical writer, Montville, NJ), Beverly A. Caley, JD (Caley-Reidenbach Consulting, Philomath, OR), and Margie Miller (senior scientific director, Medscape, New York, NY). The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of the article have been disclosed by the independent peer reviewers or editorial staff. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the *Clinical Journal of Oncology Nursing* or the Oncology Nursing Society. McIntyre can be reached at [mcintke@jhmi.edu](mailto:mcintke@jhmi.edu), with copy to editor at [CJONEditor@ons.org](mailto:CJONEditor@ons.org). (Submitted May 2014. Revision submitted July 2014. Accepted for publication April 23, 2015.)

Key words: colorectal cancer; regorafenib; ziv-aflibercept; adverse effects; nurses; hand-foot syndrome

Digital Object Identifier: 10.1188/15.CJON.571-579

Colorectal cancer (CRC) often is curable if detected before it metastasizes, with surgical resection resulting in a cure in about 50% of patients (National Cancer Institute [NCI], 2013). However, metastatic CRC (mCRC) and recurrent CRC remain major treatment challenges. A tumor needs new blood vessels to receive the nutrients and oxygen necessary for growth. The development of new blood vessels is called angiogenesis. The class of targeted therapies known as antiangiogenic agents works by blocking the growth of blood vessels to tumors. Trials have established the usefulness of antiangiogenic agents and new regimens in prolonging the survival of patients with advanced disease (National Comprehensive Cancer Network [NCCN], 2014; Smaglo & Hwang, 2013). In particular, two new agents, ziv-aflibercept (Zaltrap®) and regorafenib (Stivarga®), have been approved for use in specific situations. Although these agents target angiogenesis, significant differences exist between them (see Figure 1). Bevacizumab (Avastin®) is a specific inhibitor of vascular

endothelial growth factor (VEGF)-A, whereas ziv-aflibercept and regorafenib inhibit multiple VEGF ligands or receptors, respectively. Regorafenib additionally inhibits many other receptor tyrosine kinases. The complexity of the angiogenesis process presents a pathway with multiple targets that can be disrupted (Jitawatanarat & Wee, 2013; Saif, 2013; Sun, 2012). These newer agents have multiple targets, increasing the chance for successful angiogenesis inhibition and the potential for additional treatment-related side effects (Jitawatanarat & Wee, 2013; Saif, 2013).

## Monitoring, Side-Effect Prevention, and Patient Education

When managing patients with mCRC who are being treated with any of the antiangiogenic targeted therapies, creating a nursing plan to assess for adverse events (AEs), minimize the occurrence and severity of side effects, and provide management