FEATURE ARTICLE

New Therapeutic Options in Colon Cancer: Focus on Oxaliplatin

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Colon cancer is the third leading cause of cancer death in the United States and the second leading cause in the Northern, Central, and Southern Americas. Appropriate treatment depends on the stage of malignancy, which is determined using the tumor-lymph node-metastases system. In stage III disease, adjuvant chemotherapy increases disease-free and long-term survival following surgery, and chemotherapy is the mainstay of treatment for advanced disease. New therapies are being evaluated, including oxaliplatin, a third-generation platinum analogue approved as first- and second-line therapy for metastatic colorectal cancer in Europe; the drug shows great promise combined with 5-fluorouracil/leucovorin or with irinotecan. The dose-limiting toxicity of oxaliplatin is neurologic, which can be acute or chronic; this can be prevented or reduced in some cases through patient education. Nurses play a critical role in education concerning prevention and management of oxaliplatin-related side effects.

Colon cancer finally has gained the attention of the nation with the help of public figures such as Katie Couric, the well-known *Today* coanchor whose husband died of colon cancer in 1998. Because premalignant polyps can be screened for and removed, colon cancer is preventable, and cyclooxygenase-2 inhibitors have been shown to prevent polyp formation in individuals with familial adenomatous polyposis (Steinbach et al., 2000). However, colon cancer is the third leading cause of cancer death in men and women in the United States, and the second leading cause in the Northern, Central, and Southern Americas (Jemal, Thomas, Murray, & Thun, 2002). In 2002 in the United States, 50,000 men and 57,300 women are expected to develop colon cancer, and 23,100 men and 25,000 women are estimated to die of the disease (Jemal et al.). Although some advances have been made in the management of advanced colon cancer, new chemotherapy agents offer hope of further improvement. This article outlines current treatment approaches and focuses on the investigational chemotherapy agent oxaliplatin. Its mechanism of action, potential side effects, and nursing concerns, including assessment and patient education, are described.

Treatment Strategies

Treatment depends on the stage of the malignancy. Once a benign polyp transforms into a malignant lesion, surgical resection of the lesion with tumor-free margins is the optimal therapy (Skibber, Minsky, & Hoff, 2001). Ninety-five percent of colon cancers are adenocarcinomas, as they arise from the glandular epithelium of the colon. Prior to surgery, a computerized tomography scan and blood tests are performed to determine whether the tumor has spread beyond the colon to the liver or other organs. During surgery, lymph nodes adjacent to the colon are removed and tested to ascertain whether tumors are present. Following surgery, the tumor is staged to determine optimal therapy. Duke's staging system, commonly used in the past, has been replaced by the tumor-lymph node-metastases (TNM) staging system (Sobin & Wittekind, 1997).

In stage III disease (i.e., when lymph nodes are involved), adjuvant chemotherapy clearly increases disease-free and long-term survival following surgery (Skibber et al., 2001). Whether adjuvant chemotherapy improves survival in stage II is unclear; as a result, clinical trials currently are being conducted to determine this. However, chemotherapy is recommended if a tumor is obstructive or has perforated the bowel wall (Benson et al., 2000). In advanced disease (i.e., stage IV), aggressive therapy may be considered for some conditions (e.g., hepatic resection for isolated liver metastases [Berg & Lilienfeld, 2000]); however, chemotherapy has remained the mainstay of therapy for advanced colon cancer. Currently, combination therapy with 5-fluorouracil (5-FU), leucovorin, and irinotecan represents the first-line therapy for metastatic colorectal cancer. This combination of drugs results in an overall response rate of 39.4% and survival of 14.8 months, which is significantly greater than with either irinotecan or 5-FU/leucovorin alone (Saltz, Locker, Pirotta, Elfring, & Miller, 1999). In one study, patients with metastatic colorectal cancer were randomized to receive irinotecan and supportive care or supportive care alone. Of those receiving irinotecan and supportive care, 36.2% survived one year versus 13.8% of those receiving supportive care alone (Cunningham et al., 1998).

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