Hepatocellular carcinoma (HCC) ranks as the eighth most common cancer in the world. Although uncommon in North America, the incidence of HCC in the United States has increased by 70% since the 1980s (Yu, Yuan, Govindarajan, & Ross, 2000). Estimates suggest that approximately 17,300 people in the United States will develop HCC in 2003 (Jemal et al., 2003). Generally, the most frequent causes of malignant hepatic disease in the United States are metastases from melanoma and primary tumors of the gastrointestinal tract, breast, and lung. Approximately 30% of patients with colorectal cancer present with liver involvement, and an additional 60% develop liver metastases (Kemeny, Kemeny, & Lawerence, 2000). The liver is the initial site of metastasis in 4% of breast cancers, 15% of lung cancers, and 24% of melanomas (Kemeny et al., 2000). Reviews of autopsy series revealed that the prevalence of liver metastases was 70% in patients with melanoma, 45%–60% in those with breast carcinoma, and 30%–50% in those with lung carcinoma (Gilbert & Kagan, 1976; Weiss, Gruendermann, & Torhorst, 1986).

The increased frequency of the liver as the initial site of metastasis is thought to be caused by the liver’s large blood supply, which originates from the portal and systemic systems. Researchers have suggested that humoral factors that promote cell growth and cellular factors such as adhesion molecules favor metastatic spread to the liver (Kemperman, Diessens, La Riviere, Meijne, & Roos, 1995; Long, Nip, & Brodt, 1994). Others speculate that the liver’s geographic proximity to other intra-abdominal organs may facilitate malignant infiltration by direct extension (Bhattacharya, Rao, & Kowdley, 2002).

Surgical resection and systemic chemotherapy are standard treatments for hepatic disease. However, surgery is not an option for patients with advanced disease, and the response rate from systemic chemotherapy remains low. An alternative therapy for patients with HCC or cancers with liver metastases is hepatic arterial infusion of chemotherapy directly into the liver. This method allows a high total body clearance and hepatic extraction to generate high hepatic and low systemic exposures. Nursing care of patients receiving hepatic arterial infusion of chemotherapy includes patient education and monitoring for complications.

Key Words: carcinoma, hepatocellular; neoplasm metastasis; infusions, intra-arterial

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