

Advancing the Scope of Nursing Practice: Hepatic Arterial Catheter Removal

Brandi A. Barosh, ADN, RN, Cynthia Holmes, BSN, RN-BC, OCN®, Lovely M. Keerikattu, ADN, RN, PCCN, Mary S. Manappurathu, BSN, RN-BC, OCN®, Julie H. Segovia, MSN, RN, CDR Patricia C. Hasen, MSN, APRN-C, Shobha V. Pai, MS, PA-C, Geri LoBiondo-Wood, PhD, RN, FAAN, and Razelle Kurzrock, MD, FACP

A delay in hepatic artery infusion catheter removal may prolong patient discomfort and lead to additional complications. As a result, this article evaluated the effectiveness of shifting the responsibility of catheter removal from advanced practice or medical staff to nurses. Overall, patients were satisfied, felt comfortable, and experienced minimal pain irrespective of whether their catheter was removed by a nurse, physician, or advanced practice staff. Nurses also were satisfied and felt they had enhanced their ability to provide quality patient care.

With hepatic artery infusion (HAI), cytotoxic agents are delivered directly into the hepatic artery, which allows for prolonged levels of the agents in tumor cells with relative sparing of normal liver parenchyma (Power, Healey-Bird, & Kemeny, 2008). The main advantages of this route are lower systemic exposure, fewer side effects, and higher drug concentration at the tumor site than that achievable by systemic therapy (Barber, Mavligit, & Kurzrock, 2004). An interventional radiologist places the HAI catheter subcutaneously through the common femoral artery while the patient is in a supine position. The patient's hip joints are immobilized to facilitate accurate placement and prevent migration of the catheter, which is not affixed to the arterial wall. The placement of the HAI catheter can be an arduous process for the patient, who must remain immobile.

The process of accurate catheter placement and transportation of the patient from interventional radiology to the hospital room can take from two to four hours, after which the chemotherapeutic agent is administered by a nurse. Depending on the pharmacokinetics and adverse effects of the agent, the infusion time may range from two hours to three days following the protocol.

To minimize the risk of catheter dislodgement during the chemotherapy infu-

sion and to decrease the risk of bleeding at the catheter site, the patient remains recumbent and maintains immobility of the hip joint ipsilateral to the femoral arterial catheter-insertion site for up to an additional six hours following catheter removal. Given that patients must remain in a supine, immobile state for the duration of the catheter placement plus the period following catheter removal, patients may spend up to two to three days under those conditions. Catheter removal could be completed only by approved healthcare providers (physicians, nurse practitioners, and physician assistants) in accordance with the University of Texas MD Anderson

Cancer Center and the policy of the Texas Board of Nursing (TBON).

Despite the staff's best efforts to improve the timeliness of the catheter placement process, chemotherapy infusion, and catheter removal, infusion in many cases was completed well into the evening after the primary team had left for the day. To minimize the risk of thrombosis when approved healthcare providers are unavailable to remove the catheter, one liter of normal saline with 5,000 units of heparin is infused at 50 ml/hour through the HAI catheter until at least one hour before catheter removal. Under those circumstances, the patient is required to

Brandi A. Barosh, ADN, RN, Cynthia Holmes, BSN, RN-BC, OCN®, and Lovely M. Keerikattu, ADN, RN, PCCN, all are clinical nurses on the Medical Telemetry/Phase I Clinical Trials Unit, Mary S. Manappurathu, BSN, RN-BC, OCN®, is a case manager in the Case Management Department, and Julie H. Segovia, MSN, RN, is the director of clinical services for the Children's Cancer Hospital, all in the Division of Nursing at the University of Texas MD Anderson Cancer Center in Houston; CDR Patricia C. Hasen, MSN, APRN-C, is a division officer in the Family Medicine Department of the U.S. Naval Hospital at Camp Pendleton in California; and Shobha V. Pai, MS, PA-C, is a physician assistant in Investigational Cancer Therapeutics, Geri LoBiondo-Wood, PhD, RN, FAAN, is an associate professor and director of Nursing Research and Evidence-Based Practice in the Department of Nursing, and Razelle Kurzrock, MD, FACP, is the chair and a professor of Investigational Cancer Therapeutics, all at the University of Texas MD Anderson Cancer Center. The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense, or the government of the United States of America. The authors take full responsibility for the content of the article. The authors did not receive honoraria for this work. No financial relationships relevant to the content of this article have been disclosed by the authors or editorial staff.

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