An Early Postoperative Intraperitoneal Chemotherapy Policy for Patients With Colorectal Cancer

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Abstract

The focus of this article is a project that entailed creating and implementing a new policy on early postoperative intraperitoneal (IP) chemotherapy for patients with colorectal cancer (CRC). Colorectal cancer is a systemic malignancy that is difficult to eradicate even after a major abdominal surgery. Intraperitoneal chemotherapy is designed to provide an intensive regional dose with fewer systemic adverse effects. There is limited evidence-based practice on the use of IP chemotherapy for CRC. The experience of one clinical nurse specialist with the development and implementation of the policy on a medical oncology unit is explored. The Transformative Model by Dunphy and Winland-Brown (1998) was used as a theoretical framework for the project. A pilot is being planned; for patient safety only one patient will be admitted for the procedure at a time. The project is ongoing.

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The role of the clinical nurse specialist (CNS) is complex, multifaceted, and not well understood. Dimensions of the role include expert practitioner, researcher, clinical educator, coach, role model, patient advocate, consultant, resource person, supervisor, liaison, and innovator (Hamric, Spross, & Hanson, 2009). As a valuable member of the clinical multidisciplinary team, the CNS routinely exercises all of these roles, at varying levels of intensity. This paper examines the experience of one CNS in creating and implementing a new nursing policy on early postoperative intraperitoneal (IP) chemotherapy for patients with colorectal cancer (CRC) in a medical oncology unit.

Background

Colorectal carcinomas are associated with peritoneal carcinomatosis in 10% to 15% of cases at the time of initial diagnosis and in 58% of cases at

the time of recurrence (Tentes, 2004). Colorectal cancer is predominantly a systemic malignancy. Even if a complete cytoreduction has been performed, microscopic foci have likely been left in the abdominal cavity (Tentes, 2004).

The major advantage of IP chemotherapy is the regional dose intensity provided. Following IP drug administration, the peritoneal surface is exposed to higher concentrations than the rest of the body, resulting in less systemic toxicity when compared to conventional IV drug administration (De Bree, Witkamp, & Zoetmulder, 2002; Jaaback & Johnson, 2009). High-performance liquid chromatography studies have demonstrated that exposure of peritoneal surfaces to pharmacologically active molecules can be significantly increased by IP administration (Sugarbaker et al., 1990).

Sugarbaker (1999) developed an aggressive treatment of peritoneal carcinomatosis that included cytoreductive surgery combined with hyperthermic intraperitoneal chemotherapy (HIPEC). During surgery, a Tenckhoff catheter was placed through the abdominal wall. This catheter was then used postoperatively for the administration of IP chemotherapy.

Nurses need to be familiar with this treatment modality to decrease the risk of adverse events, promote patient comfort, and administer IP chemotherapy safely. To accomplish these goals, standardization of nursing clinical care is essential. Effective nursing management of IP chemotherapy and its side effects can decrease potential complications and impact patients' quality of life (Marin, Oleszewski, & Muehlbauer, 2007).

The Problem

There is limited literature on the use of IP delivery in cancers other than ovarian cancer. Even less information is available to guide clinical practice among community oncology nurses. The recent adoption of this new model of treatment in a community hospital presented itself as an excellent challenge for the CNS to develop and systematically implement a new nursing policy on early postoperative IP chemotherapy for patients with CRC with supporting standards and procedures. The project also provided a unique opportunity for a team of advanced practitioners (APs) and physicians to collaborate and contribute to high-quality, safe community oncology nursing practice by applying best practices and supporting new skill development.

The Process

Dunphy and Winland-Brown's "The Circle of Caring: A Transformative Model of Advance Practice Nursing" (1998) was chosen as the theoretical framework for this project. The Model fosters an active and visible nursing presence in the health-care system and explains and promotes collaboration between medicine and nursing. The Model uses a problem-solving approach to advance practices that maximize the assets of both nursing and medical models. The conceptual elements are the processes of assessment, planning, intervention, and evaluation with a feedback loop. Caring is conceptualized through interpersonal interactions with patients and caregivers to which APs bring patience, courage, advocacy, authentic presence, commitment, and knowing (Dunphy & Winland-Brown, 1998). The Model emphasizes the importance of direct care and clinical expertise in CNS practice.

A project group, including a nurse manager, a CNS, and a HIPEC patient care nurse coordinator, was organized to develop the policy. This effort was multifaceted, including an organizational needs assessment, an evidence-based literature review of existing practices, and consultations with other oncology centers to assess knowledge in this area of expertise. Data for an organizational assessment were gathered from the members of the organization as well as from the existing organizational records and documents to evaluate available resources and readiness of the unit for the project. It resulted in the development of practice standards, new nursing procedures, new equipment testing, and revisions in nursing and patient education documents and practices. Each phase of this project and the documents developed were critically reviewed and evaluated weekly during the 7 weeks of the project's duration.

It was the recommendation of the project group that patients receiving IP chemotherapy would require one-on-one nursing care due to the complexity and intensity of the treatment Initial project barriers included the need to train staff nurses in telemetry and intermediate care, and the need to ensure adequate RN staffing to

maintain patient safety. The decision was made to supplement the staffing with extra nurses to adequately cover the patient care when necessary. Strong administrative support for this project and close collaboration with hospital leadership facilitated the address of diverse financial and organizational challenges.

A critical clinical product included the development of a comprehensive practice manual entitled, "The Policy on Early Postoperative Intraperitoneal Chemotherapy," which included extensive supportive documentation such as scope of practice, equipment needed for the administration of IP chemotherapy, nursing procedures, organizational documents used to produce the policy, and nursing and patient education. The project is an excellent example that makes CNS efforts, inputs, and achievements more visible and appreciated within the health-care system.

Extensive research through literature reviews and consultations with key stakeholders, experts, clinical manufacturers, and members of the multidisciplinary team (medicine, surgery, and nursing) helped produce the necessary standards and practices to be implemented for the IP chemotherapy. This process was evaluated during weekly project group meetings that enabled the team to keep within the allotted timeframe and to critically consider the effects of the change on patient safety. Practice-based performance data will be tracked to assess consequences of nursing interventions on patient outcomes such as safety, effective management of adverse reactions, and quality of care.

Conclusions

The project is ongoing. A pilot is being planned; since the procedure is relatively new only one patient will be admitted on the unit at a time, and one-on-one nursing care will be performed for this patient to provide safe and effective patient care. This was an excellent opportunity to apply many CNS competencies and roles, and as the project evolves, will continue to incorporate the CNS in an ongoing role.

DISCLOSURES

The authors have no conflicts of interest to disclose.

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