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Introduction of Enhanced Recovery After Surgery for Colorectal Surgical Patients: A Quality Improvement Project

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Executive Summary

Introduction of Problem

According to the latest statistics from 2010, approximately 240,000 patients required colorectal surgery (CDC, NCHS, 2012). Demographic changes and the increasing burden of chronic disease is likely to increase this volume placing further demand on limited healthcare resources (Nicholson et al., 2014). Recovery from colorectal surgery has traditionally been a long, complicated process with extended hospital stays and high morbidity rates (Zhuang et al., 2015). In a time of rising healthcare costs, strategies that both improve patient care outcomes and decrease overall expenses are increasingly desirable. The purpose of this practice project was to develop and introduce an ERAS protocol for colorectal surgical patients at a tertiary care facility in southern Illinois.

Literature Review

The ERAS protocol for colorectal surgical patients was developed after reviewing available current literature. A total of 36 bodies of literature were deemed relevant and reviewed. Common themes, such as decreased length of stay and increased patient satisfaction, were noted and searched for while reviewing the literature.

Recovery from colorectal surgery has traditionally been a long, complicated process with high morbidity rates thereby increasing resource consumption and costs (Zhuang et al., 2015). In a time of rising healthcare costs, strategies that both improve patient care outcomes and decrease overall expenses are increasingly desirable. By rethinking the approach to recovery for patients

undergoing colorectal surgery, patient care outcomes may be improved within the perioperative period.

ERAS is designed to span the entire perioperative period incorporating a multimodal, multidisciplinary approach for each phase. With over 20 items composing the complete ERAS protocol, only those components specific to ERAS were elaborated upon. These key components included the following: prehabilitation, nutritional optimization, selective bowel preparation, oral premedication, goal-directed fluid therapy, postoperative ileus prophylaxis, perioperative analgesia, early feeding, and early mobilization. ERAS protocols have proven to reduce the surgical stress response, maintain physiologic function, and encourage early mobilization after surgery resulting in reduced morbidity, faster recovery, and shorter LOS (Greco et al., 2014; Nicholson et al., 2014; Spanjersberg et al., 2015; Zhuang et al., 2015).

Methodology

This project was a non-experimental single group educational posttest design. The design was aimed both at increasing the knowledge of anesthesia providers, as well as encouraging adoption of the introduced protocol. Education is the initial step in the implementation process; therefore, an educational presentation and learning assessment tool were developed and subsequently presented to the anesthesia providers at a tertiary care facility in southern Illinois during a morning staff meeting. The eight knowledge assessment questions were in a true/false format and addressed ERAS goals, specifics on orthopedics and colorectal surgical populations, outcomes, and the audience's prior awareness of the topic. A five-point Likert scale was utilized to derive the likelihood of ERAS adaptation at the facility.

The project was deemed exempt by Southern Illinois University Edwardsville's (SIUE) Institutional Review Board (IRB). Following IRB approval, the Hospital Research Review

Committee for the tertiary care facility also approved the project. There were minimal threats to human subjects that chose to participate in this project including inconvenience of time and emotional distress. The posttest was voluntary, and participants were able to withdraw at any time without consequence. In addition, information for a contact person regarding rights as research participants was made available.

Evaluation

The results of the study confirmed the presentation increased the anesthesia providers' knowledge of ERAS and staff indicated support in adopting the introduced protocol. The first assessment question indicated that 32% of respondents had no knowledge of ERAS prior to the presentation. All respondents accurately answered the questions regarding the goals and purpose of ERAS. Questions specific to colorectal ERAS were answered correctly by most participants. A five-point Likert scale was utilized to assess the likelihood of staff supporting implementation of ERAS protocol(s) at the tertiary care facility. Half of the participants rated a five on the scale ranging from one (strongly disagree) to five (strongly agree). The mean score was a four, thus the likelihood of staff supporting ERAS implementation was somewhat strong.

Some challenges were met during this project, the biggest of which being the overwhelming amount of literature available on ERAS. Narrowing down and sifting through the substantial amount of information to find the most reliable data on which to build the protocol was, by far, the biggest challenge. Additionally, at the time of implementation, the tertiary care center had no stable general surgeon pool doing colorectal surgery, thus presenting a major deterrent in gaining support.

Introducing the protocol, coupled with the educational module, is the first step in rolling out an ERAS protocol at a facility the size of the host tertiary care center with its multiple

departments. Education is necessary for obtaining buy-in from staff. Practice changes involving pathways or protocols may be a difficult transition for independent providers to make. Changing from a relatively independent decision-maker, to a provider that complies with evidence-based interventions and pathways may be a challenge, highlighting the need for a solid educational basis.

Impact on Practice

ERAS aims at improving clinical practice to make patient care safer and more efficient. Prior to this project, the host institution was not considering ERAS for colorectal surgery and many of the anesthesia providers were not familiar with the concept. Staff education is the first step toward implementing the protocol, and the results of the study confirmed the presentation increased anesthesia providers' knowledge on ERAS. Studies confirm delivering a participatory education program improves overall understanding of ERAS and, ultimately, achieves sustained adherence to ERAS programs (McDonald, 2015). Implementing a colorectal ERAS protocol requires the collaboration of many departments and personnel. This project can be promoted by replicating it to include interdepartmental education, which would increase awareness of and encourage collaboration for successful implementation of the proposed ERAS protocol. In addition, the ERAS protocol developed is applicable to similar tertiary care centers, demonstrating the generalizability of this project.

Conclusion

By rethinking the approach to recovery for patients undergoing colorectal surgery, patient care outcomes may be improved within the perioperative period. An ERAS protocol represents a shift in perioperative care leading to reduced surgical stress, maintained postoperative physiologic function, and early mobilization (Gustafsson et al., 2013). This has resulted in

reduced rates in morbidity and complications 30 days after discharge, faster recovery, decreased length of hospital stay, and overall direct and indirect cost savings (Nicholson et al., 2014). An available protocol, increased knowledge, and eagerness to adopt an ERAS program are apparent within this anesthesia practice.

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