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Improving Patient Education on Spinal Anesthesia: An Assessment of a Patient Educational Program

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Introduction to The Problem

Spinal Anesthesia (SA) is a common type of anesthesia that is frequently used for surgeries of the lower abdomen, lower extremities, and perineal area. Spinal anesthesia offers fewer side effects and risks than General Anesthesia (GA). Patients who receive a SA usually have a shorter recovery time in the post anesthesia care unit (MedlinePlus, 2017). According to Barash and colleagues (2013), other advantages include improved pain control, a decrease in opioid use, and less intraoperative blood loss. Patients who receive a SA also experience less post-operative nausea and vomiting (PONV) and have a lower incidence of deep vein thrombosis (DVT). There are still a fair number of patients who refuse SA despite the documented benefits. The development of a patient preoperative educational program can improve a patient's knowledge in SA.

Literature Review

Numerous studies have been performed on SA and have supported the benefits. In a historical study by Thorburn, Louden, and Vallance (1980) comparing SA versus GA in 85 total hip arthroplasty patients, where 38 patients received SA and 43 received GA. The results showed the development of DVTs occurred in 29% of those who received SA, and 54% in those who received GA. The intraoperative blood loss in the SA group was 50% less than that of the GA group, and the volume of blood transfused in the SA group was 52% less than the GA group. Fewer cardiovascular and respiratory complications have also been reported (Neuman, Silber,

Nabil, Ludwig, & Fleisher, 2012). Patients who have had a SA combined with intrathecal opioid undergoing total hip arthroplasty have reported post-operative analgesia up to 24 hours after surgery (Malek & Kurzova, 2004).

Multiple articles revealed that patients often refuse SA due to misconceptions. Patients reported fears of neurological complications, being awake for surgery, and inadequate pain control (Kiskira et al, 2013). McCartney, Chan, & El-Beheiry (2017) reported low incidents of neurological complications of 0.04%.

The literature review examined SA education and proven teaching methods. The review identified a lack of education as a common problem reported by healthcare providers. The lack of education is related to patient's learning styles and low health literacy. It is essential to assess and identify which learning style works best for each patient (Beagley, 2011). Patient education has been shown to be most successful when visual, auditory, and kinesthetic teaching styles are combined (Russel, 2006). Visual learners prefer to see what their learning, using pictures or videos. Auditory learners need to hear the information that is given to them, this is done through lectures or recordings. And the Kinesthetic learner requires neither hearing or seeing, but the actual act of doing what it is they our trying to learn (Russel, 2006).

Methodology

This project is a non-experimental exploratory design. The project focuses on ways to improve education and knowledge for SA candidates. A pamphlet (Appendix A) on spinal anesthesia was created. The pamphlet explained the physiology, benefits, and risks of SA compared to GA. It also addressed frequently asked questions. The pamphlet was written to reflect a reading level deemed appropriate by a southern Illinois community hospital education

department and provided pictures for visual aids. The pamphlet was given to patients during the preoperative visit at an admission and testing center (ATC). Patients were also given the option of watching a video (Appendix B) demonstrating SA. The evaluation of the project consisted of a survey (Appendix C) distributed to the anesthesia staff after a month implementation of the educational aids. Participants of the survey included the anesthesia department including anesthesiologists and certified registered nurse anesthetists (CRNA). The group consisted of volunteers that used the educational material and completed a survey, with a potential sample size of n = 30.

This project was deemed Institutional Review Board (IRB) exempt by Southern Illinois University of Edwardsville (SIUE) and Belleville City IRB committee in May of 2018. Both approvals were obtained prior to the implementation of the SA pamphlet and video.

Evaluation

The anesthesia providers who used the educational materials were asked to complete a questionnaire one month after the implementation of the educational aids. The survey results were collected and analyzed in aggregate form to determine the effectiveness of the pamphlet and video. A Likert type scale was utilized to assess if the material was or was not useful as a teaching tool. The survey assessed if the pamphlet or video saved or added time to the anesthesia interview with patients. The survey was used to identify the benefits, negatives, and whether the material could be utilized within their facility. Feedback on ways to improve the educational material was appreciated. Demographic data was collected to correlate answers to each individual provider.

Eight anesthesia providers completed the survey after the one-month implementation

phase. Half of the eight providers had more than 20 years of experience and only one provider had less than five years. Five were CRNAs (62%) and three were anesthesiologists (37%). All the participants agreed that the material was at an appropriate reading level for patients. They also agreed that the pamphlet and video were effective in educating patients. The majority (62%) of participants found the materials to neither increase nor decrease the time of pre-anesthetic interviewing. However, one surveyor did not like the fact that "Everyone had to see it, even people who were not candidates for spinal" but did like how "pts understood more." The surveyors agreed (100%) that the material should continue to be used within their department. The materials answered the most commonly asked questions regarding SA while remaining at an appropriate health literacy level. The project demonstrated usefulness on educating patients by allowing patients to be informed on SA before deciding on their choice of anesthetic.

The limitations to the project include limited participation of anesthesia staff, not all anesthesia providers work in the admission and testing center, nor work with patients receiving spinal anesthesia. Thus, a larger sample size with a better response rate may be needed to assess the effectiveness of the materials adequately.

Impact on Practice

The goals and objectives of the project were to provide a pamphlet and video on SA that would improve patient education preoperatively on SA. The educational material was implemented and is deemed a helpful tool among anesthesia providers at the local community hospital. The results of the evaluation process concluded that the pamphlet and the video was effective in educating patients on SA preoperatively. Giving those patients who chose SA more knowledge on their anesthetic option. Providing better pain control intraoperatively and post-

operatively. Allowing for fewer cardiovascular and respiratory complications. Limiting their intraoperative blood loss and rate of blood transfusions. Decreasing their risk for DVT, PONV, and providing improved patient outcomes.

When it comes to sustaining the project, another provider could continue to look at the effectiveness by monitoring the number of spinals performed, patient outcomes, and the overall satisfaction of the provider. Another way of sustainability could be in having patients fill out a survey and assessing their overall satisfaction with the learning materials. Doing so could help in identifying other patient and provider needs, and a way to better help educate patients on spinal anesthesia.

Conclusion

There is a need for patient education on SA. A multimodal approach on educating patients can increase knowledge and help improve patient outcomes and perioperative experiences with SA. SA offers health benefits to patients and it is vital that anesthesia providers have the appropriate materials needed to help promote healthy outcomes. The lack of patient educational materials at the local community hospital helped provide support for this project. This project initiated a discussion on barriers anesthesia providers face with preoperative teaching.

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