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Labor Management Protocol for Parturients on Buprenorphine

Erik Sanders BSN, RN

Executive Summary

Introduction of the Problem

Opioid dependence in the US has reached epidemic levels (Reddy, Davis, Ren & Greene, 2017). Opioid dependence during pregnancy may lead to negative outcomes for both the parturient and the fetus. Women with known opioid dependence are often prescribed drugs such as methadone, or more recently, buprenorphine. Buprenorphine, an opioid, is a partial mu receptor agonist prescribed by providers as a form of medication assisted therapy (MAT) for opioid addiction and chronic opioid use (Reddy et al., 2017). The use of buprenorphine within parturients is a relatively new practice and anesthesia providers are encountering difficulties in managing this population during the peripartum period. The lack of a comprehensive, standardized approach for pain management during the peripartum period for the parturient on buprenorphine therapy has created many challenges for anesthesia providers. Given the increasing number of opioid dependent parturients, the creation of effective pain management regimen for this group is a priority. A Midwestern tertiary care center does not have a protocol for the care of parturients on buprenorphine therapy, and anesthesia providers and obstetricians desire the development of an organized plan for the care of this population.

Literature Review

The goal of pain management in this patient population is to effectively manage the intrapartum period to improve patient satisfaction and outcomes, reduce the overall cost of their health care, decrease the length of stay, and promote maternal-child bonding postpartum. Women are encouraged to continue their MAT while pregnant. Abruptly stopping treatment can

lead to ill outcomes, including intractable pain and opioid withdrawal symptoms (Souzdanitski & Snegovskikh, 2014). Pain management strategies should be formulated based upon the clinical and psychological presentation of the parturient with clear and realistic goals (Pan & Zakowski, 2017).

The use of regional anesthesia during the anesthetic period is an acceptable source of analgesia and is preferable to systemic opioid use (Pan & Zakowski, 2017; Park, Meltzer-Brody & Suzuki, 2012). Alto & O'Connor (2011) noted that non-opioid analgesics may be sufficient for post-vaginal delivery pain, but opioids should be available if the pain becomes more severe. Patient controlled analgesia (PCA) is an option for the acute management of breakthrough pain in this population after a cesarean (Jones et al., 2008; Meyer et al., 2010; Reddy et al., 2017). There are, however, certain drugs which should be avoided when providing analgesia for parturient taking buprenorphine. Drugs such as nalbuphine and butorphanol are mixed opioid agonist-antagonist drugs. Thus, a parturient who receives one of those drugs may develop withdrawal symptoms related to the opioid antagonist component of the medication (Jones, et al., 2008; Reddy et al., 2017).

Project Methods

The purpose of this project was to create a labor pain management protocol for parturients on buprenorphine at a Midwestern tertiary care center. The main goal of the project was to perform a thorough literature review related to the peripartum management of women taking buprenorphine and subsequently disseminate those findings in the form of a PowerPoint presentation to primary stakeholders in the anesthesia and obstetrics departments. Prior to implementation, the project's proposal was submitted for evaluation and deemed exempt by Southern Illinois University Edwardsville's Institutional Review Board (IRB).

Evaluation

The primary outcome measured for this project was the multidisciplinary team's knowledge of buprenorphine after the presentation. A true/false questionnaire aimed at evaluating the author's effectiveness in teaching the team members about buprenorphine was distributed at the conclusion of the presentation. Of the staff members in attendance, six returned surveys. Several members of a typical parturient's care team were represented, including two nurse anesthetists, two obstetrical nurses, a pharmacist, as well as a maternal/fetal medicine physician. All respondents correctly identified that buprenorphine is an opioid agonist-antagonist. Only half of the participants correctly identified that Suboxone was not the correct trade name for buprenorphine (Subutex). All participants correctly noted that ACOG recommends continuing buprenorphine throughout the peripartum period. The majority of respondents (5/6; 89%), recognized that neonatal abstinence syndrome is a potential complication of buprenorphine therapy. All participants understood that parturients on buprenorphine may receive neuraxial analgesia. All respondents correctly indicated that parturients on buprenorphine may exhibit hyperalgesia and also have a 47% increase in opioid requirements post cesarean-section. Finally, all respondents noted that Nubain and Stadol were not good analgesic options for this population.

Included at the conclusion of the questionnaire was a five-point Likert scale gauging the degree of support for a labor management protocol at the host facility. The mean score was a 4.67/5, indicating strong support and a recognized need for a labor management protocol for parturients on buprenorphine therapy.

One major limitation faced by this project was the small sample size. The number of participants was directly related to high workload in the operating room and labor unit the day of

the presentation. As such, the results of the questionnaire may not be generalizable to a larger number of respondents due to a small sample size. Another limitation of the project is the lack of evidence available from the literature review. Few studies exist detailing pain management for parturients on buprenorphine during the peripartum period and no example pain management protocols for the parturient population were discovered during the literature search.

Impact on Practice

Results of the survey indicated that the educational presentation created a strong level of support for the introduction of a pain management protocol for parturients on buprenorphine. The immediate impact of this project at the institution was a greater awareness of parturients on buprenorphine therapy. Another immediate impact was an increase in communication between the anesthesia department and maternal/fetal medicine practitioners when managing parturients on buprenorphine. This protocol could create a powerful impact over the long-term for parturients once fully implemented. A labor pain management protocol could improve maternal/fetal outcomes, decrease length of stay, and improve patient satisfaction.

Conclusion

Limited data exists regarding peripartum pain management for the parturient on buprenorphine therapy. There is no universal guideline to aid anesthesia providers in the peripartum management of parturients undergoing MAT with buprenorphine. As there are a lack of studies, most pain management recommendations for this population are made from case reports and provider opinion (Anderson, et al., 2017). As such, pain management strategies should be individualized, include multimodal analgesic options including oral, intravenous and neuraxial techniques, and be based on the collaborative efforts of the parturient, obstetrician, nurses, and anesthesia providers. The results of this project indicate that anesthesia providers and

labor and delivery nurses at this facility were in favor of implementing a labor management protocol for parturients on buprenorphine. It can be concluded that the availability of such protocol may have a significant impact on the anesthesia providers, as well as the parturients in their care.

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