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Sedation Management Implementation In Liver Cancer Patients

By Michael J. Thompson, RN, MPA, CNOR

After more than 40 years in the health profession, I have never lost my passion for recognizing and controlling the patient's pain. Hundreds of articles have been written on this subject but very few, if any, on the use of nurse administered pre-emptive analgesia within the field of Interventional Radiology. Moderate sedation drugs and sedation protocols have not changed dramatically in the past 20 years, especially in the field of Interventional Radiology. This "one size fits all" approach has hindered evidence based research and delayed exploration of other currently available drug venues for procedural sedation management.

Anecdotal evidence, at UCSD Medical Center over the past 3 years, of nurse-administered sedation shows that patients undergoing chemotherapy for hepatocellular carcinoma in Interventional Radiology required less overall sedation when Dilaudid was added to the standard sedation protocol of Fentanyl and Versed and pre-emptively given before Transarterial Chemoembolization (TACE). Patients receiving only the standard sedation formula without Dilaudid appeared more likely to ask for increased pain medication even though their physiologic status prevented additional sedation.

My eagerness to investigate this anecdotal evidence culminated in a desire to improve patient outcomes by preventing over-sedation—without compromising pain management—in this vulnerable patient population. Moreover, the standard sedation formula was not adequately controlling intra-operative pain, which inspired me to resolve this disparity.

In collaboration with Rhonda K. Martin, RN, ACNP-C and Dr. Steven Rose, MD, a research plan was developed and submitted to the UCSD Human Research Protections Program. A quality audit with retrospective medical record review was approved for liver cancer patients receiving moderate sedation for Transarterial Chemoembolization between July 2007 and October 2008. The research hypothesis was that preemptive Dilaudid would improve pain management and decrease use of sedation medications.

The final T-Test analysis (n=50) was statistically significant and confirmed that patients receiving pre-emptive Dilaudid required less overall sedation with Fentanyl (p=.005) and Versed (p=.009). This is clinically important because less sedation improves patient outcomes by preventing drug-induced respiratory depression and airway obstruction.1 The American Society of Anesthesiologists (ASA) Guidelines for Sedation and Analgesia stress the importance of careful titration with sedative/analgesic combinations to prevent complications when providing pain relief.[2]

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Pre-emptive Dilaudid did decrease overall sedation requirements in patients undergoing TACE. Recommendations for future research would include how this protocol affects patients in the post-procedural period.

Although Interventional Radiology nu rses understand the need for moderate sedation, few apply sedation protocols consistently. Sedation management within the field of radiology is not well understood, and there is limited research on this topic in the current literature. This quality audit is a first step to improve the standard of care for Interventional Radiology patients receiving moderate sedation for liver cancer. Extrapolation from this data to other Interventional Radiological procedures holds promise; further prospective research would be informative.

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