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Patient Safety Tip of the Week

January 5, 2021

Dilaudid/HYDROmorphone Still Problematic

One of our most favorite patient safety targets over the years has been misuse of Dilaudid/HYDROmorphone. We were actually a bit surprised that it has been over 3 years since our last column on this issue.

But the problem has not gone away. ISMP Canada recently published its compilation of medications most frequently reported in harm incidents over the past 5 years (ISMP Canaada 2020). They categorized the involved medications by health care setting (hospital, long-term care, community pharmacy, and home and community care).

Two medications appear in the top 3 in multiple settings. HYDROmorphone was in the top 3 in all except community pharmacy. Insulin was the other medication in the top 3 (appearing in 2 institutional care settings). Notably, each of these 2 medications was cited twice as often as any other medication in harm incidents from all health care settings combined.

Moreover, HYDROmorphone was the medication named most often in reports with severe harm or death. It accounted for 11.1% of severe harm or death reports, almost double the next most frequent offender.

We hope you will go back to our previous columns on Dilaudid/HYDROmorphone (listed below). It's especially worth reiterating some strategies from our June 20, 2017 Patient Safety Tip of the Week "Dilaudid Dangers #4" that you should consider to reduce the risk of Dilaudid/HYDROmorphone (and other opioid) adverse events:

- Education of physicians, nurses, pharmacists, etc. on the different potencies of various opioids (but keep in mind that education and training are relatively weak patient safety interventions so other preventive interventions will be needed)
- Equipotency cards/posters/popups for commonly prescribed opioids
- Consider restricting ordering of HYDROmorphone to clinicians who you have specifically credentialed and privileged to order and administer HYDROmorphone (such as Pain Management physicians)
- Consider dose range alerts during CPOE (eg. note a typical dose is 0.2-0.5 mg. IV and limit dose to 1.0 mg for an opioid-naïve patient)

- Don't allow orders for dose ranges (eg. do not allow "Dilaudid 2-4 mg q3h prn for pain levels…")
- Other alerts during CPOE (eg. if a patient is already on a sedative/hypnotic drug prompt "Are you aware sedative agents make patient more vulnerable to opioid-induced respiratory depression?")
- Include a "hard stop" if an attempt is made to order one opioid in a patient already receiving another opioid
- Other decision support tools for ordering (eg. prompts asking about whether the patient is opioid-naïve or opioid-tolerant, then suggest starting dosages)
- Establish criteria for using intravenous opioids
- Patient selection/identify hi risk patients (the very young and the very old, those with obesity, sleep apnea, neuromuscular diseases, COPD, and those in higher ASA classes, those receiving sedative/hypnotic drugs)
- Screening for obstructive sleep apnea (OSA) prior to use of IV opioids with a tool such as STOP or STOP-Bang
- Look for other risk factors (renal function, coadministration of sedative/hypnotic drugs, etc.)
- Monitor, monitor, monitor…
- Continuous pulse oximetry and capnography or apnea monitoring
- Close monitoring (in an ICU setting if necessary for high-risk patients)
- Pain assessment, RASS (Richmond Agitation-Sedation Scale) or POSS (Pasero Opioid-Induced Sedation Scale) or other scale for level of arousal other scale for level of arousal
- Enforce RASS or POSS (by requiring input of RASS or POSS score at BMV or when taking out of ADC)
- Tie recommended course of action to the RASS or POSS score
- Include section of opioids on your "Ticket to Ride" intrahospital transfer form for patients being taken to areas such as Radiology
- Always have narcotic reversal agents readily available where IV opioids are being used and have protocols that deal with issues like **renarcotization**
- Standardized order sets
- Different order sets for opioid-naïve and opioid-tolerant patients
- Avoid order sets that allow a provider to check boxes for contraindicated combinations such as IV morphine and epidural HYDROmorphone/bupivacaine on the same order set
- Avoid basal rates for PCA in opioid-naïve patients
- Warnings when taking it out of ADC (eg. "This is DILAUDID. Is this what you wanted?") or require a witness for overrides when using ADC or eliminate overrides completely for HYDROmorphone
- Independent double checks
- Use tall man lettering "HYDROmorphone"
- Consider limiting the number of different opioids you use for acute pain management (eg. use morphine as your "preferred" opioid and reserve Dilaudid for rare patient who gets pruiritis from morphine though even that is challenged

by the meta-analysis showing no difference in pruritis between Dilaudid and morphine)
- Have pharmacists prepare and dispense the doses in prefilled unit dose syringes
- Stock HYDROmorphone only in lower doses on patient care floors and ADC's
- Stock HYDROmorphone and morphine in different concentrations and keep them separate in stock
- Add labels to avoid confusion (consider using brand name "HYDROmorphone (DILAUDID)")
- Involve patients and families in educational efforts about IV opioid therapy
- Perform regular audits with feedback for doses of HYDROmorphone exceeding 1 mg
- Make sure HYDROmorphone is on your "High-Alert" drug list
- Consider doing a FMEA (Failure Mode and Effects Analysis) to determine your potential vulnerabilities to Dilaudid incidents

Our prior columns on patient safety issues related to Dilaudid/HYDROmorphone:

- September 21, 2010 "Dilaudid Dangers"
- November 2011 "FDA Changes on Dilaudid/HYDROmorphone"
- July 3, 2012 "Recycling an Old Column: Dilaudid Dangers"
- November 19, 2013 "Can We Improve Dilaudid/HYDROmorphone Safety?"
- June 2, 2015 "Reminders of Dilaudid Dangers"
- October 13, 2015 "Dilaudid Dangers #3"
- June 20, 2017 "Dilaudid Dangers #4"
- June 18, 2019 "Found Dead in a Bed"

References:

ISMP Canaada. Medications Most Frequently Reported in Harm Incidents over the Past 5 Years (2015–2020). ISMP Canada Safety Bulletin 2020; 20(11): 1-5 https://www.ismp-canada.org/download/safetyBulletins/2020/ISMPCSB2020-i11-Medications-Reported-Harm.pdf
(ISMP Canaada 2020)

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