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Dilaudid: Pain killer or just plain killer?

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In the last couple of years, our firm has handled a number of cases involving deaths or brain injuries caused by a particular pain killer – Dilaudid. These cases have all dealt with the unintentional overdoses or failure to monitor patients after Dilaudid was given. A review of the literature demonstrates that this problem is widespread, has been recognized for a long time, and isn't getting better.

Dilaudid, the brand name for hydromorphone, has been around since the 1920s. It is an opioid pain medication that has become the "go to" treatment for severe pain.

All medications carry risk, but there is an unusually high number of injuries caused by Dilaudid. The disproportionately high number began garnering attention as early as 2004. The Canadian Institute for Safe Medication Practices wrote about "An Omnipresent Risk of Morphine-Hydromorphone Mix-Ups" in its July 2004 issue. It recounted an incident in which a patient was given 10mg of hydromorphone rather than 10 mg of morphine. The patient arrested and died.

Even medical negligence insurers have taken notice of the disproportionate number of Dilaudid adverse events. The Doctors Company published an article in 2009 stating that it's "database contains multiple cases of Dilaudid overdose resulting in morbidity and mortality." Similarly, in 2011 Outpatient Surgery Magazine noted a "rise in Dilaudid-related lawsuits." Moreover, in August of 2012 the Joint Commission issued a Sentinel Event Alert on the safe use of opioids in hospitals. In it, the Joint Commission stated that of the studied opioid related adverse drug events, 47% were wrong dose errors and 29% were improper monitoring.

Wrong dose errors are usually the result of confusion between morphine and hydromorphone. The number of instances in which Dilaudid (hydromorphone) is mistaken for morphine, and vice versa, is alarming. A Pennsylvania Patient Safety Advisory from September 2010 noted that, of the Pennsylvania medication errors involving Dilaudid, 23% involved the wrong dose being given, 11% involved the wrong drug, and 8% involved monitoring errors. 70% of the wrong drug errors involved the administration of Dilaudid instead of morphine, or vice versa.

Sometimes, doctors and nurses incorrectly assume that hydromorphone, a derivative of morphine, has the same potency as morphine. Similarly, because hydromorphone and morphine have similar names, clinicians have been known to confuse the two medications. It is generally accepted that *Dilaudid is seven times more powerful than morphine*. The FDA Prescribing Information recommends an IV starting dose for Dilaudid of 0.2 to 1 mg. The recommended IV starting dose for morphine is essentially ten times more, with an initial dosing recommendation of 4 to 10 mg.

No clinician would ever conceive of giving a patient an initial starting dose of 70 mg of morphine. This, however, is what happens when Dilaudid is confused for morphine. Whenever this happens, the patient has a high risk of suffering severe respiratory depression, brain damage, and even death.

Even when a patient is overdosed on Dilaudid, that patient can easily be saved if he or she is being properly monitored. Unfortunately, the data demonstrates that clinicians are not adequately monitoring patients who receive Dilaudid. Dilaudid has a peak effect of 5 to 15 minutes and lasts for two to four hours. As such, serial sedation assessments should be done following the administration of Dilaudid.

There are three sedation scales that are commonly used. The Inova Health System Sedation Scale (ISS), the Richmand Agitation and Sedation Scale (RASS), and the Pasero Opioid-Induced Sedation Scale (POSS). All of these scales are different, but each focuses on determining the level of alertness of the patient.

Things to look out for

So what are the signs of respiratory depression? Opioid-induced respiratory depression is usually identified by decreased respiratory rates, decreased oxygen saturation levels, or increased end tidal carbon dioxide levels. This means that if nurses are examining their patients' depth and rhythm of breathing, work of breathing, use of accessory muscles, symmetric chest movement, and auscultation of lungs using a stethoscope, they should be able to identify early signs of respiratory depression.

Similarly, decreased oxygen saturation levels are easily measured with pulse oximetry. Thus, any patient receiving Dilaudid should have a continuous pulse oximeter in place for at least four hours after each dose of Dilaudid is administered. A decreasing oxygen saturation level, particularly any level that falls below 90%, should immediately lead the clinician to suspect respiratory depression and a possible Dilaudid overdose.

Many clinicians incorrectly believe patients are sleeping after being given Dilaudid, when they may actually be suffering from respiratory depression. A 2012 Advisory Update on Dialaudid by the Massachusetts Quality and Patient Safety Division noted that most patients were found unresponsive after earlier being described as somnolent, lethargic, sleeping, or snoring.

In our cases, we frequently hear nurses tell us that they believed the patient was sleeping and did not want to disturb them. In these situations, the nurses will also tell us that they checked the patient's depth and rhythm of breathing. Upon further examination, however, they generally cannot remember if they checked the patient's breathing from across the room, at the foot of the bed, or from some other position. Family members will generally tell us theses same nurses only poked their heads into the room and asked if they needed anything.

Many Dilaudid injuries and deaths occur postoperatively. Patients who are opiate naïve, obese, or have sleep apnea are at greatest risk. As a result, when reviewing cases that involve

post-operative codes or hypoxic events, the investigating lawyer should determine whether Dilaudid was administered, at what dose, and whether nurses were closely monitoring the patient after it was given. If the health care profession is held accountable for each death or brain injury caused by the negligent administration of Dilaudid, maybe it will finally begin to implement changes.