Admitting “Overflow” Patients to Units Without Proper Expertise Invites Errors

Matthew Grissinger, RPh, FASCP

**Mr. Grissinger is a Medication Safety Analyst at the Institute for Safe Medication Practices in Huntingdon Valley, PA (www.ismp.org).**

**PROBLEM:** Admitting “overflow” patients to units where staff expertise may not exist for typically prescribed drug therapy creates a dilemma. Add an excessive workload in the pharmacy, unfamiliarity with glycoprotein IIb/IIIa receptor antagonists, poor handwriting, and a failure to dispense drugs in the most ready-to-use form—and you have a blueprint for the following error.

A patient arrived at the emergency department with sudden-onset chest pain. An electrocardiogram was performed, and an acute myocardial infarction (AMI) was suspected. The patient was initially treated with aspirin, enoxaparin (Lovenox®, Sanofi-Aventis), and reteplase (Retavase®, Centocor/Johnson & Johnson). Because the coronary-care unit was full, the patient was admitted to the surgical intensive-care unit, where epifibatide (Integrilin®, Schering-Plough), a glycoprotein IIb/IIIa receptor antagonist used to inhibit platelet aggregation, was started.

In patients with acute coronary syndrome, the recommended loading dose is 180 mcg/kg, followed by a continuous infusion of 2 mcg/kg per minute for up to 72 hours until discharge from the hospital or until after a coronary artery bypass graft is performed. Unfortunately, the cardiologist’s order called for a loading dose of “180 mcg,” not “180 mcg/kg.”

The pharmacy was particularly busy, and the pharmacist, who was unfamiliar with the drug, misread the physician’s handwritten order as “180 mg.” She initiated the loading dose by giving 75 mg over 60 minutes and was planning to call the pharmacy for the remainder of the dose later. (A typical 70-kg patient should receive a 12.6-mg loading dose.)

Just as the initial infusion was ending, another pharmacist discovered the error and the infusion was discontinued. Fortunately, the patient experienced no permanent harm; although platelet inhibition persists during the infusion, its effect dissipates with cessation of the drug.

**SAFE PRACTICE RECOMMENDATIONS:**

- If a patient is admitted to a unit different from one that was expected (e.g., a pediatric patient in an adult unit, a cancer patient in a general medical unit, or an AMI patient in a surgical ICU), the pharmacist should communicate important information to any nurses who must administer an unfamiliar drug, especially “high-alert” drugs such as glycoprotein IIb/IIIa inhibitors.
- Written protocols, which should be developed before the drug is first used, can also be sent to the unit for easy reference.
- Clinical pathways (care maps) and standard orders for treating AMI patients can be helpful in providing clear communication of orders and can ensure safe procedures for drug administration.
- The pharmacist should verify ambiguous orders.
- Computerized prescriber order entry (CPOE) can also help to prevent misinterpretation of orders and can provide alerts when a prescribed therapy might be unsafe.
- Pharmacists should dispense glycoprotein IIb/IIIa inhibitors in a ready-to-use form.
- An independent double-check should occur prior to dispensing and administration.
- Although it might be difficult, it is equally important to provide pharmacists and nurses with adequate time and a manageable workload... when high-alert drugs are involved.

...it is equally important to provide pharmacists and nurses with adequate time and a manageable workload... when high-alert drugs are involved.

The hospital in which this error occurred is now developing an educational program for glycoprotein IIb/IIIa inhibitors. Although it is certainly essential for practitioners to understand the indications, contraindications, dosages, and administration procedures for this class of drugs, sooner or later someone involved with the use of these drugs will probably have limited knowledge about them. Thus, it is important for pharmacists to play a leading role as a source of drug information. Here are some guidelines:

- Pharmacists must be certain that they themselves have proper knowledge about the drug before they dispense it.

The reports described in this column were received through the USP–ISMP Medication Errors Reporting Program (MERP). Errors, close calls, or hazardous conditions may be reported on the ISMP (www.ismp.org) or the USP (www.usp.org) Web site or communicated directly to ISMP by calling 1-800-FAIL SAFE or via e-mail at ismpinfo@ismp.org.