How to Address a Drug Interaction Alert

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Pharmacists are faced with frequent drug interaction (DI) alerts. Assessing the risk of these potential interactions to the patient is the first step that must be taken, prior to acting on the alert. When it becomes necessary to intervene to prevent patient harm, every pharmacy practice setting should have a uniform approach to DI alerts. The response to a potential DI will depend on several factors, including who is seeing the alert, the level of access to prescribers and patients, the perceived severity of the risk, and potential management options. As we have previously covered options for dealing with inappropriate alerts, we will assume the DI alert is appropriate and represents some risk of harm to the patient.

BASIC INFORMATION NEEDED

It is important that pharmacists responding to DI alerts possess a good general knowledge of DIs, including common mechanisms, determinants of DI time courses, various pathways for drug elimination (including the cytochrome P450 [CYP] system and drug transporters), common inhibitors and inducers of drug elimination, and an understanding of DI risk management. If your computerized DI alert system does not provide this information, it is available in a variety of publications. Because there is a large (~6-fold) interpatient variation in the magnitude of response to 2 interacting drugs, pharmacists must know which drug and patient factors will act to either increase or decrease the risk to a specific patient. In previous columns, we have discussed many of these factors (eg, degree of first-pass metabolism, genetics, concomitant diseases, dose of drug, and route of administration) that alter the magnitude of an interaction.

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AGREE ON CERTAIN HIGH-RISK DIS

It is a good exercise to have all the pharmacists at your practice site agree on a list of particularly "risky" drugs commonly prescribed to your patients (eg, those with narrow therapeutic range or high first-pass metabolism) and determine how to respond. This list of interactions should be based on the potential for severe adverse outcomes and would likely be fairly short.

For example, prescriptions for warfarin plus CYP2C9 inhibitors or colchicine and CYP3A4 or P-glycoprotein inhibitors might always require a prescriber contact prior to dispensing. While the options to avoid patient harm that are presented to the prescriber might differ, the prescriber would be contacted in all cases involving high-risk interactions.

DEVELOP STANDARD MANAGEMENT OPTIONS

Recognition of a potential DI is just the first step of DI management; providing safe and effective therapeutic options is the basis of good clinical decision support. Two general management approaches to consider are finding alternatives for the object or precipitant drug and appropriate monitoring of patient response. There is no definitive rule that preferentially directs substitution of the object or precipitant drug. Often the choice is based on the availability of suitable alternatives or on which drug was most recently prescribed. The pharmacist has a unique opportunity to be able to offer the prescriber a therapeutic alternative for one of the interacting drugs, particularly when 2 different prescribers are involved. Physicians will rarely make recommendations regarding drugs prescribed by another physician. Alternatives will have similar pharmacologic properties but lack the interaction risk.

If it is not possible to switch one of the interacting drugs, and the decision is made to administer both drugs to the patient, a monitoring plan should be devised to detect any evidence of an adverse drug reaction and respond appropriately. Monitoring could be as simple as measuring vital signs, plasma drug concentrations, or a specific pharmacodynamic parameter such as international normalized ratio or electrocardiogram. It is important to consider the time course of the interaction so that monitoring is done to coincide with the onset of measurable outcomes.

While patient response to drug interactions is quite variable, pharmacist response should not be. Pharmacists at a practice site should agree on the DIs that are high risk and respond to all similarly. Pharmacists should discuss the various options for managing potentially harmful interactions, including appropriate alternative drugs that might be recommended and the type and timing of monitoring approaches. Having a standardized response to DIs will provide the best clinical decision support to prescribers and minimize the risk to patients. ***PT***

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