
Clinical decision support (CDS) is increasingly being provided to practitioners, often as a system designed to alert the practitioner of potentially dangerous drug usage. Many authors have noted the problem of alert fatigue, particularly with drug-drug interactions (DDI) CDS systems where the main complaint is often too many alerts. Dr. Kogut in a recent article in JMCP raised the important issue of the quality of the DDI information that is presented. The potential interaction between triptans and selective serotonin reuptake inhibitors/ selective norepinephrine reuptake inhibitors (SSRI/SNRIs) is one of several examples where data simply do not support the level of concern for the interaction. Shortly after the U.S. Food and Drug Administration (FDA) alert in 2006, we reviewed the pharmacokinetic and pharmacodynamic potential for the interaction. Our assessment was that a pharmacodynamic interaction was unlikely to occur. We noted the limited basis for an interaction, the difficulty in diagnosing serotonin syndrome in the cases, and the lack of causation determination. We did note that a pharmacokinetic interaction was possible between fluvoxamine and triptans that are substrates of CYP1A2.

Dr. Kogut also raises the question of the viability of case reports as indicators of DDIs. Case reports can provide useful information on the magnitude of potential interactions and the probability of a causal relationship between the purported DDI and an event observed in a particular patient. It is important to carefully assess case reports for causation, and a tool specifically designed for that task is available. The existence of biologic plausibility and a time course consistent with the known properties of the drugs are 2 crucial elements of determining causation.

We agree with Dr. Kogut that the absence of careful, knowledgeable assessment of potential interactions results in DDIs being included in knowledge databases that are theoretical, unfounded, or have erroneous, often exaggerated, severity ratings. The commercial DDI software at our 900-bed institution formerly generated nearly 25,000 alerts in a typical 24-hour period. We customized our DDI CDS using an evidence-based approach to DDI classification in which 2 pharmacists with drug interaction expertise evaluated each of 8,214 unique pairs of drugs classified as “major” interactions. This process resulted in 34.3% (n = 2,817) of the interactions retained as high-level severity, 0.1% (n = 8) reclassified as “minor,” and 65.6% (n = 5,389) reclassified as “moderate” severity. After reclassification of the interactions, the average of 25,000 total daily alerts was reduced to about 500 major high-quality alerts per day that are intended to prevent patient harm from potential DDIs.

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DISCLOSURES
The authors report that they receive income from a variety of sources for their work in the study of drug interactions, including a textbook entitled, The Top 100 Drug Interactions: A Guide to Patient Management.

REFERENCES