

Predicting Abnormal Urine Drug Testing in Patients on Chronic Opioid Therapy

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Purpose

This study was designed to assess how accurately clinicians can predict which patients on COT will have abnormal urine drug test results.

The American Pain Society and the American Academy of Pain Medicine Guidelines for the Use of Chronic Opioid Therapy (COT) in Chronic Noncancer Pain state "In patients who are on COT who are at high risk or who have engaged in aberrant drug-related behaviors, clinicians should periodically obtain urine drug screens. In patients on COT not at high risk and not known to have engaged in aberrant behaviors, clinicians should consider periodically obtaining urine drug screens" (Chou et al., 2009). Several retrospective studies demonstrated that physicians are often unable to accurately assess the likelihood of drug misuse, abuse or diversion in patients on COT. In a study investigating urine drug toxicology results in 122 patients receiving chronic opioids over a three year period, aberrant drug-related behaviors were discordant with urine toxicology. Twenty seven percent of patients with no behavioral issues had an illicit or non-prescribed controlled substance in their urine (Katz & Fanciullo, 2002). Michna (2007) reported on 470 patients where 45% were found to have an illicit drug, a non-prescribed controlled substance, or the absence of the prescribed medication. No clear predictors of abnormal drug screens were identified based on the variables of gender, pain site, type of opioid, opioid dose, number of opioids prescribed, or prescribing physician.

Method

Clinicians prospectively classified patients who were about to have a urine drug test into one of 3 groups: Group A: those patients thought to be compliant with prescribed therapy, Group B: those patients thought to be misusing medications, and Group C: a random group of patients for comparison. The clinics were able to assess risk in patients by whatever methods they normally used in that practice. Over a 2 month period 51 prescribers from 39 clinics submitted urine samples for analysis. Data was analyzed on 414 samples. Urine drug monitoring results were categorized as normal or abnormal, with abnormal consisting of samples with the prescribed opioid medication not found and/or an illicit drug present.

Results

Of the 414 samples, 159 were classified as coming from patients thought to be compliant (Group A), 130 classified as coming from patients suspected of medication misuse (Group B), and 125 random samples (Group C). In Group A (N=159), clinical assessment was wrong in 97 patients (61%) with only 62 patients (39%) having normal urine drug tests. Prediction accuracy increased in Group B (N=130) with 91 (70%) having abnormal urine drug tests. Results of Group C (N=125) found 72 (58%) were abnormal. In the group thought to be compliant (Group A), the prescribed medication was missing in 73 patients; illicit drugs were present in 17 patients and 7 patients had an illicit drug present and were also missing prescribed opioid medication. Clinical accuracy in this group was comparable to the data from the random group.

Conclusions

Clinicians who suspected patients of medication misuse were correct 70% of the time when urine drug testing results were obtained. In patients who were not suspected of medication misuse, practices were correct only 39% of the time. Thus, if a clinician suspects a patient of misusing medications based on

whatever risk assessments the practice uses, and they get a urine drug test on that patient, the results are likely to be abnormal. However, clinicians only testing patients suspected of misusing medications are missing a significant group of patients that are misusing their medications without any identifiable risk behaviors.