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Commentary

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As the opioid crisis has shown, this drug class is one of the most frequently prescribed and abused worldwide. This case highlights a common question that clinical laboratories offering pain management testing receive: "My patient is being prescribed X, and the urine is positive for Y and/or negative for X. Do these results make sense?" The opiate and opioid metabolism pathways are notoriously complex, and interpretation of testing results is further complicated by the presence of impurities of other opioid medications in prescription pills. As the authors of this case demonstrate, consultation with the laboratory is an invaluable clinician resource in such cases, as is the availability of quantitative confirmation testing including drug metabolites or testing with alternative methodologies. The case also highlights that with the advent of more and more sensitive technology, the need for awareness of potential impurities in prescription pills may become more of an issue. If urine toxicology results do not make sense, preanalytical errors such as sample mix-up could also be suspected, as could patient diversion, substitution, or a lack of compliance. Further, as a number of opioid medications are metabolized by polymorphic enzymes such as the cytochrome P450s, individual patient metabolism and genetic testing for these polymorphisms may also play a role in the elucidation of whether urine toxicology test results match what should be expected given what is being prescribed.

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