April 2015

Washington University Emergency Medicine Journal Club
Routine Laboratory Screen in Psychiatric Patients in the ED

Vignette

You are working a shift in EM-1 (i.e. the corner of pain) one typical Friday the 13th. The moon is full and so are rooms 5-12. Three new psychiatric patients are brought in by EMS. The first is a 23 year-old female with a known history of schizophrenia, medication noncompliance, and chronic cocaine abuse who was found wandering the street acting paranoid and delusional. Her vital signs are normal. The second is a sixty year male whose wife passed away one year ago who has been feeling sad and depressed ever since. He states he wants to kill himself and owns a gun. He denies alcohol or drug use and does not appear intoxicated. His vitals are completely normal. The third is a thirty-five year old male with no known psychiatric medical history. His wife called EMS because he has been behaving more bizarrely for the last week, claiming the FBI was out to get him, claiming their children were aliens, and claiming she was the anti-Christ. He had barricaded himself in his room and the police had to assist in his extraction. He is tachycardic, but otherwise has normal vitals.

You know that you will need a psychiatric consult on all of these patients and start to order the "typical" labs, when you stop and wonder if this is really the best practice. You have three very different patients with very different differentials, and you wonder if the cookie-cutter method is really the best. You ask yourself if there is any literature to guide your decision making, specifically if there is any evidence that routine lab testing is beneficial in psychiatric ED patients. The next day you decide to perform a literature search and find...

PICO Question
Population: Pediatric and adult patients presenting to the ED for evaluation of psychiatric chief complaints
Intervention: Routine laboratory screening
Comparison: Laboratory testing based on clinician discretion
Outcome: Disposition, psychiatric care, change in medical management, cost, length of stay

Search Strategy

A PubMed search was conducted using the terms ((emergency) AND ((psychiatry) OR psychiatric)) AND ((routine) OR screening) in the title or abstract, limited to humans (http://tinyurl.com/kyo95e5). This resulted in 252 articles, from which 4 were chosen for inclusion.

Article 1: Amin M, Wang J. Routine laboratory testing to evaluate for medical illness in psychiatric patients in the emergency department is largely unrevealing. West J Emerg Med. 2009 May;10(2):97-100. Answer Key.

Article 2: Donofrio JJ, Santillanes G, McCammack BD, Lam CN, Menchine MD, Kaji AH, Claudius IA. Clinical utility of screening laboratory tests in pediatric psychiatric patients presenting to the emergency department for medical clearance. Ann Emerg Med. 2014 Jun;63(6):666-75.e3. Answer Key.

Article 3: Schiller MJ, Shumway M, Batki SL. Utility of routine drug screening in a psychiatric emergency setting. Psychiatr Serv. 2000 Apr;51(4):474-8. Answer Key.

Article 4: Janiak BD, Atteberry S. Medical clearance of the psychiatric patient in the emergency department. J Emerg Med. 2012 Nov;43(5):866-70. Answer Key.

Bottom Line

Patients presenting to the emergency department (ED) with psychiatric complaints typically undergo a process of medical clearance prior to evaluation by a psychiatrist or psychiatric intake nurse. The nature of this "medical clearance" is seldom standardized. In addition to a history and physical exam, laboratory testing is often performed. What additional laboratory testing should be performed, if any, is a highly controversial topic and often varies from state to state and hospital to hospital. A retrospective analysis of adult psychiatric patients presenting to ED's in Rhode Island demonstrated there was significant variability in the number tests performed at each hospital. The Illinois Department of Human Services specifically requires all patients to have blood counts, electrolytes, a pregnancy test, and a drug screen performed for medical clearance, while the state of New Jersey specifies that "diagnostic testing should be conducted based upon the emergency provider's determination of need."

The American College of Emergency Physicians Clinical Policy on the management of psychiatric patients in the ED recommends that laboratory testing be "directed by the history and physical examination," noting that routine testing is "very low yield." The results of our journal club support these recommendations for both adult and pediatric patients. A retrospective study of patients admitted to the Medical College of Georgia demonstrated only one significant laboratory abnormality that would change ED intervention or disposition out of 519 cases reviewed. This abnormality involved a patients with abnormal vital signs and a significant past medical history, and should have been expected based on the history and physical exam. A similar study in Bakersfield, CA demonstrated that only 4 patients without significant findings on the history and physical exam had a laboratory abnormality requiring a change in management. In all 4 cases, the lab abnormality was a positive urinalysis suggesting infection, and disposition was not altered in any of the cases.

In a randomized controlled trial conducted at San Francisco General Hospital, patients referred to the emergency psychiatric service were randomized to either mandatory drug screening or screening at physician discretion. Mandatory drug screening was found to have no impact on disposition or referral for substance abuse treatment. This study suggest that clinician discretion, rather than protocol, should dictate whether a urine drug screen is necessary for patients being evaluated by psychiatry in the ED.

Similar results to those discussed for adult patients have also been demonstrated in the pediatric population. In a retrospective chart review of pediatric patients presenting to a large inner city ED in California, lab testing resulted in a change in disposition in less than 1% of cases. In all but one of these cases, there was an associated abnormality in the history or physical exam that predicted the lab abnormality. In the other case, the abnormality was a positive pregnancy test, resulting in admission to the medical service where no pregnancy-related interventions were required. In another 6% of cases, there was a lab abnormality that required a change in management. In half of these cases, there was an associated abnormality in the history or physical exam; in the the other half, the abnormality involved a non-urgent change in medical management. The ED length of stay was significantly shorter in patients who did not undergo blood testing and in those who required no screening labs at all.

These data suggest that in alert, cooperative patients - both adult and pediatric, - routine laboratory testing for psychiatric complaints in the ED is unnecessary. Testing should instead be directed by the history and physical exam. Urine drug testing, while often useful in the long-term management of patients, does not appear to alter the acute disposition of patients, and should not delay psychiatric consultation or disposition from the ED.