

Rapid Test for Ethylene Glycol Poisoning

A low-cost qualitative test used by veterinarians showed promise in detecting antifreeze poisoning in humans.

Ethylene glycol poisoning often is suspected when both an anion gap and an osmolar gap are present in a patient with alcohol dependence or ingestion. But confirmation of the diagnosis — desirable because treatment is expensive and not without risk — usually requires sending a blood sample to an outside laboratory and waiting for results. In a prospective observational study, researchers evaluated the ability of a rapid qualitative test used by veterinarians to detect ethylene glycol in 24 samples from patients with suspected toxic alcohol poisoning. Gas chromatography was the reference standard.

The qualitative test identified all 15 samples that were positive for ethylene glycol by gas chromatography (sensitivity, 100%). The qualitative test was negative in five samples that were confirmed positive for methanol and negative for ethylene glycol. One of four samples that tested negative for methanol and ethylene glycol by gas chromatography tested positive by the qualitative test (specificity, 89%).

Comment: Clearly, a larger study of this test's operating characteristics is needed before widespread use can be recommended in people. However, while I suspect the sensitivity and specificity will not be as good, these results look promising. A rapid test would be a great help to clinicians who now must decide whether to institute treatment with fomepizole, ethanol, or hemodialysis based on nonspecific clinical findings.

— [Richard Saitz, MD, MPH, FACP, FASAM](#)

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