
Letter to the Editor

□ The “GI Cocktail” in the Evaluation of Chest Pain in the Emergency Department

The following case illustrates a recurring problem in the emergency department evaluation of chest pain. The challenge in evaluating chest pain is to determine which patients have a life-threatening condition and which do not. One of the more difficult problems is to separate chest pain due to esophageal disease from that caused by myocardial ischemia. Both are common and both can respond to nitrates and calcium channel blockers; however, one is an emergency and the other generally is not. Unfortunately, some of the strategies used to determine the cause of chest pain are inappropriate based on the existing literature. The use of a “GI Cocktail” in the emergency department evaluation of chest pain is such an inappropriate practice. I present below a case of acute myocardial infarction with a prompt and complete response of chest pain to a “GI Cocktail.” Following the case, I have reviewed the sparse and inconclusive literature on this diagnostic test.

A 46-year-old white male with no prior history of heart disease presented to the emergency department complaining of 10 and a half hours of substernal chest pain with nausea and dizziness. The pain was initially described as “like a weight,” and there was associated left arm numbness and dyspnea. He was a smoker, but there was no family history of early cardiac disease, nor a history of hypertension, diabetes mellitus, or hypercholesterolemia. The patient looked much more comfortable than expected for his complaints and had a benign examination. The patient described years of epigastric pain with reflux characteristics and recent “black” stool. The patient also recanted much of his earlier history and indicated his current pain was epigastric. He also said it was the same thing he had been having for years and that he thought it was his stomach. A “GI Cocktail” was administered (30 cc Mylanta II, 10 cc Donnatal Elixir, and 5 cc Viscous Lidocaine 2%), and the patient had

prompt and complete relief of his discomfort and elimination of all associated symptoms. An EKG had also been performed during this time and was felt to have no findings of acute ischemia and to be unchanged from one done 2 months prior (in retrospect, there were minor changes with a new T-wave inversion and 1.2 mm Q-wave in lead III).

Because of the patient’s initial worrisome history, blood work had also been sent, including a CPK. This was reported as 988 Units/L (normal 25–232 U/L) with a CPK-MB of 67.0 ng/ml (normal 0–5.0 ng/ml). The patient was treated with aspirin, nitrates, and heparinization, and did well with a peak CPK of 1472 U/L. He was transferred to a referral hospital the next day for cardiac catheterization, which showed a recent 100% occlusion of the right coronary artery, which was successfully opened with angioplasty.

This case illustrates the central importance of history in deciding the initial management of chest pain patients (1,2). Second, the case illustrates the difficulty of emergency department laboratory confirmation or refutation of a clinical suspicion of myocardial ischemia. The emergency department electrocardiogram is not always diagnostic and is often misinterpreted (3). Emergency department determinations of CPK and CPK-MB have not proved to be as useful as was hoped and frequently are not available immediately (4). Finally, the case illustrates the inappropriateness of the “GI Cocktail” as a diagnostic tool in the emergency evaluation of chest pain.

Distinguishing ischemic from esophageal chest pain is difficult. They can share characteristics such as dyspepsia and response to nitrates. The sympathetic pain fibers that serve both converge, possibly explaining the difficulty of separating esophageal and cardiac pain. Published reviews on this topic suggest the use of the Bernstein Intraesophageal Acid Drip Test, esophageal manometry, and other studies not usually performed in the emergency department (5,6). The frequency with which the “GI Cocktail” is used in the evaluation of

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chest pain in the emergency department is unknown; however, its use for this purpose is common in the author's experience, and such use has been promoted in national journals (7,8).

A Medline search using the terms *GI Cocktail*, *Antacids*, *Local Anesthetics*, *Esophageal Diseases*, and *Chest Pain*, *Angina Pectoris*, or *Myocardial Infarction* located only two studies on the predictive characteristics of the "GI Cocktail." An observational case series with an unspecified number of patients for this parameter stated that antacids relieved chest pain due to esophagitis in 39% of cases and relieved cardiac chest pain in 7%, using esophagoscopy and EKG criteria for diagnosis (9). The second study involved an uncontrolled opportunity sample of 60 patients (whose characteristics were not stated) presenting to an emergency department with chest pain and no EKG evidence of myocardial infarction (10). It found that no patient with complete or almost complete response to a mix of Viscous Lidocaine and Maalox or Mylanta had a myocardial infarction by unstated criteria. The author

recognized his study was preliminary and that larger and better trials were needed to validate his findings. Finally, others have also reported cases of complete relief of myocardial pain by the "GI Cocktail" (11). Therefore, the available literature consists of two weak studies with conflicting results and case reports documenting the failure of this test to accurately diagnose patients.

Using a "GI Cocktail" in the emergency evaluation of chest pain is a diagnostic test for which the sensitivity and specificity are unknown. The case above illustrates how unreliable and potentially dangerous it can be. At the present time, the response of a patient with chest pain to a "GI Cocktail" has no place in the decision of whether to treat a patient's pain as cardiac, possibly cardiac, or noncardiac.

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