To the Editor:

A 16-year-old boy in a coma (Glasgow scale 3) with general seizures was admitted to the intensive care unit. No palpable pulse necessitated cardiac massage. A blood specimen submitted to this laboratory tested positive for tricyclic antidepressants (TCA) by EMIT (Behring, Cupertino, CA) and negative by FPIA (Abbott, Wiesbaden, Germany). A number of antidepressants were screened for in blood by a high-performance liquid chromatographic (HPLC) method (1): amineptine, amitriptyline, amoxapine, clomipramine, desipramine, dosulepine, doxepin, fluoxetine, imipramine, maprotiline, metapramine, mianserine, nortriptyline, opipramol, propizepine, protriptyline, quinuprine, tianeptine, trimipramine, and viloxazine. None of these compounds were found in this sample. Drug screening for phenothiazines (2), which are known to be a frequent cause of false-positive results with immunoassays (3), was negative. A comprehensive drug test, performed by HPLC with diode-array detection (4), identified buflomedil, a peripheral vasodilator, at a concentration of 28 mg/L in this specimen. Studies were then performed with drug-free plasma samples spiked with buflomedil in a concentration range of 1 to 100 mg/L. A positive result for TCA was obtained for 13 mg/L with EMIT and 85 mg/L with FPIA. These results demonstrate that buflomedil cross-reacts with TCA in both systems at concentrations that can be found in acute intoxications. Indeed, whereas therapeutic plasma values of buflomedil are 1 to 4 mg/L, cardiotoxicity may occur as soon as plasma concentrations are greater than 10 mg/L (5).

A review of the literature revealed no data on this cross-reactivity. The pointing out of such an interference may be of great interest for analytical toxicology. Indeed, clinical symptoms of acute buflomedil and TCA intoxications are very similar, consisting principally in a neurologic toxicity and early cardiac complications. Moreover, buflomedil is more and more frequently involved in fatal poisonings (5-10), but it is not, to our knowledge, systematically tested for in laboratories.

P. Mura¹, P. Kintz², R. Robert¹, and Y. Papet¹
¹Laboratoire de Toxicologie, Centre Hospitalier Universitaire, BP 577, 86021 Poitiers, France and ²Institut de Médecine Légale, 11 rue Humann, 67000 Strasbourg, France.

References