

A COMPARATIVE STUDY OF BLOOD & SALIVA WITH ANALYSIS BY GCMS/MS FOR THE ANALYSIS OF EPHEDRINE IN POTENTIAL ROAD USERS.

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Ephedrine is a stimulant widely used by the trucking industry for its stimulative affects, the action of ephedrine on the central nervous system is profound and this can lead to adverse affects of those under its influence to perform more complex tasks. The every day task of driving a car is taken for granted but it is a very complex task, taking reflex action and split second timing, this compounded by emergency situations can lead to a deadly combination when mixed with drugs such as ephedrine.

In this study we wanted to see the use of GCMS/MS in the detection of Ephedrine and look at the potential of monitoring saliva for the detection of this drug, we also wanted to see the difference between blood and saliva levels over a period of time, to see that the detection can be made long after the drug is taken and at normal therapeutic levels. Ephedrine analysis has been done previously^{1, 2} in plasma but reports in the literature of ephedrine in saliva³ were conducted by this group, in the study presented we used whole blood to simulate that of blood taken for drug analysis of road accident victims or those in violation of the road traffic laws.

The distinction between ephedrine and pseudoephedrine is critical and data will be shown, that gives evidence that our method will clearly show ephedrine is being monitored.

Other research has since been conducted that is reported elsewhere⁴.

Some representative data from the study is shown Fig1.

In most instances of drugs/driving studies we look at drug abuse but perhaps normal therapeutic level maybe of greater important .

1. Costello, F. et al., Br. J. Clin.Pharmac, 1975, 2, 180-181.
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3. Starmer, G., Mascord, D., Tattam, B. & Zeleny, R. Analysis of Drugs in Saliva Consultant Report. CR 141 for Reark Research & the Federal Office of Road Safety
4. Moolenaar, M. The Effects of Ephedrine on The Development of Fatigue in a Prolonged Driving-Related Task. (Honours Thesis Submitted March 1998) University of Utrecht, The Netherlands, conducted at Department of Pharmacology, University of Sydney.

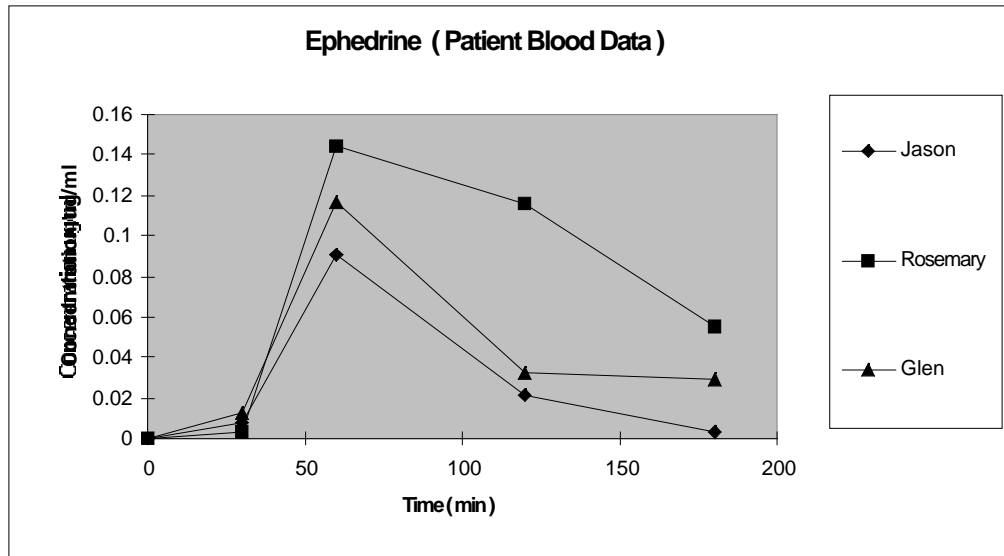


Fig1.