

DOA Round 2019.2B

Casus:

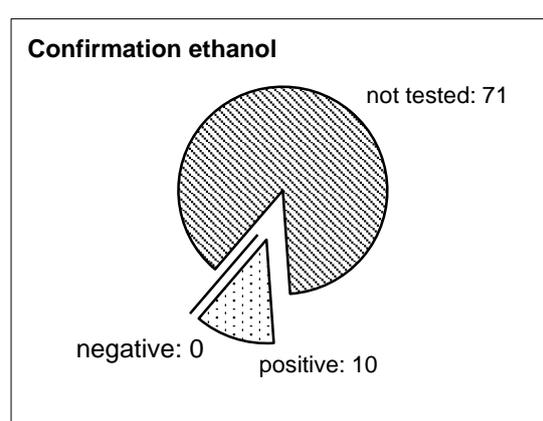
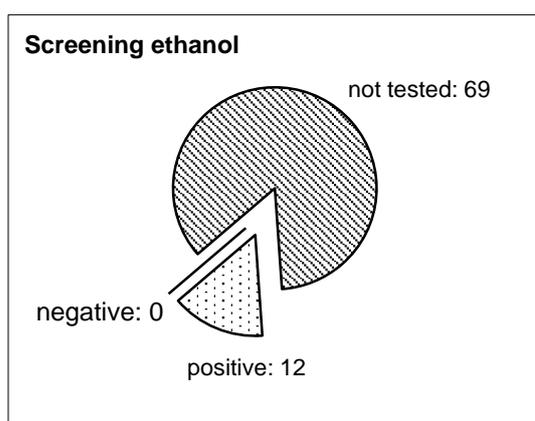
A 23 year old female was presented to the emergency department with loss of consciousness. According to her friend she had consumed some alcohol but had not been using any drugs, and had vomited prior to losing consciousness. Clinical features include a central nervous system (CNS) depression with E1M1V2, bradycardia with HR of 45 bpm and hypotension with a BP of 110/55.

Laboratory test showed no abnormalities.

Composition: urine spiked with GHB 252 mg/l and ethanol 0,920 g/l.

Results:

Ethanol: screening positive (>0,1 g/l)					
Summary statistics:					
number of laboratories: 81					
screening:	pos.	neg.	not tested	FP*	FN*
ethanol	12=15%	0=0%	69=85%	0	0
ethylglucuronide	0=0%	9=11%	72=89%	0	0
confirmation:	pos.	neg.	not tested		
ethanol	10=12%	0=0%	71=88%	0	0
ethylglucuronide	0=0%	1=1%	80=99%	0	0

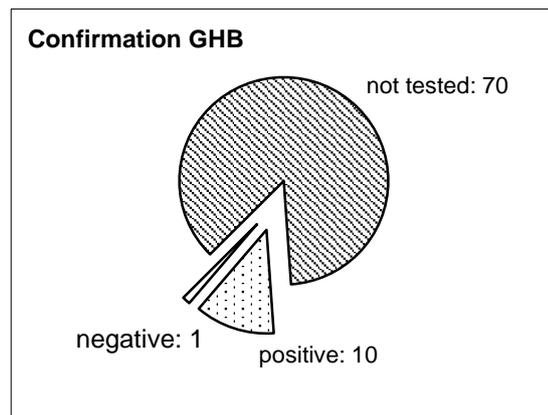
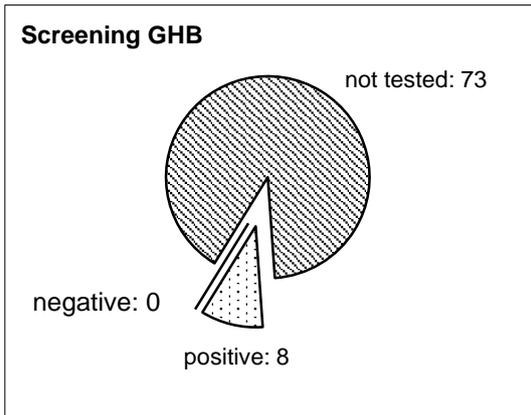


GHB: screening positive

Summary statistics:

number of laboratories: 81

screening:	pos.	neg.	not tested	FP*	FN*
	8=10%	0=0%	73=90%	0	0
confirmation:	pos.	neg.	not tested		
	10=12%	1=1%	70=87%	0	1=9%



Discussion by dr. T.M. Bosch:

This case was spiked with urine with GHB 252 mg/L and ethanol 0.920 g/L.

There is a GHB intoxication in this case.

Of the 81 laboratories that participated, only 19 have tested for GHB. Of these, 6 were screened with immunoassay, 1 with a rapid test, 2 with HPLC and 9 with GC. There was 1 laboratory that tested negative for GHB, but this was the likely sample change from lab no. 3172. The concentration of GHB was high enough for the immunoassay not to give false positive results.

There are still quite a few laboratories that do not screen / analyze for GHB as standard. The question is whether this is necessary in this case, where it is an intoxication so clearly. Because intoxication and withdrawal of GHB can also be similar in terms of clinical condition (clearly not in these 2 cases (A and B)), it seems wise to be able to perform the analysis of GHB in your own laboratory.

The ethanol in this case is recovered well. No false negative results. There is also an acceptable range (0.86-1.0 g/L) for the confirmations. No ETG was added to this sample either. However, not all laboratories screened for ethanol (85% did not screen).