

DOA Round 2019.2A

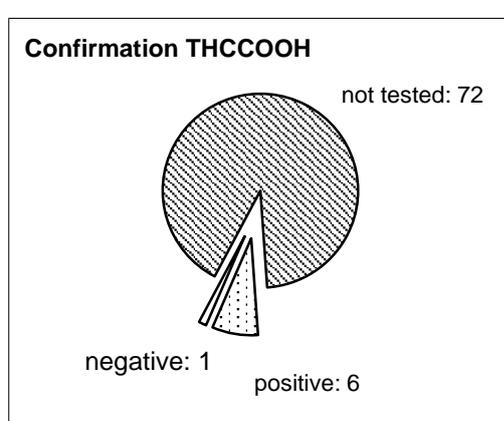
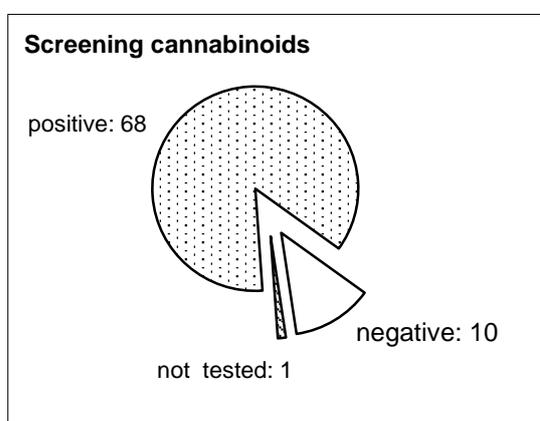
Casus:

The police brought in a 29 year old male patient who had been harassing people on the streets. The clinical features included agitation, confusion, severe tremulous, nystagmus and excessive sweating. Psychiatric evaluation showed a dissolution of time and space and auditory hallucinations. Laboratory test: AST: 164 u/L, ALT 50 u/L, Bilirubin: 15 umol/L, Creatine kinase 713 U/L, GFR > 90 ml/min, sodium 137 mmol/L, potassium 4.1 mmol/L

Composition: urine spiked with midazolam 99 µg/l, THCCOOH 80 µg/l and ethanol 2,712 g/l.

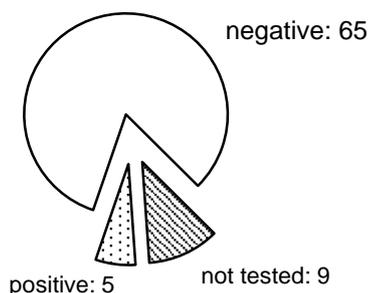
Results:

Cannabinoids: screening positive (>50 µg/l)					
Summary statistics:					
number of laboratories: 81					
screening:	pos.	neg.	not tested	FP*	FN*
	68=84%	10=12%	3=4%	0	10=12%
confirmation:	pos.	neg.	not tested		
	6=7%	1=1%	74=91%	0	1=14%

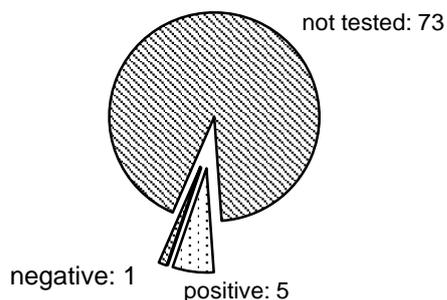


Benzodiazepines: screening negative (<200 µg/l)					
Summary statistics:					
number of laboratories: 81					
screening:	pos.	neg.	not tested	FP*	FN*
	5=6%	65=80%	11=14%	0	0
confirmation:	pos.	neg.	not tested		
	5=6%	1=1%	75=93%	0	0

Screening benzodiazepines



Confirmation benzodiazepines



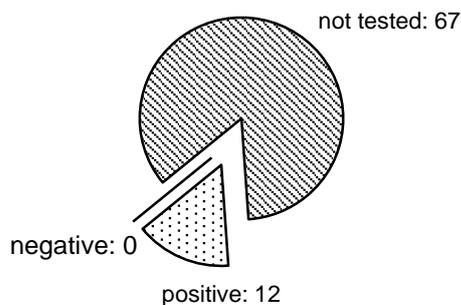
Ethanol: screening positive (>0,1 g/l)

Summary statistics:

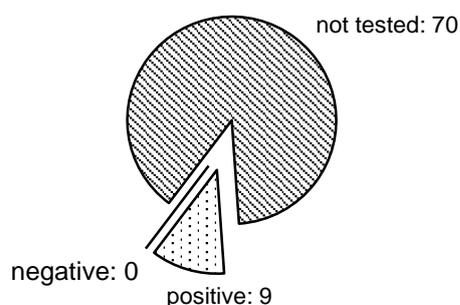
number of laboratories: 81

screening:	pos.	neg.	not tested	FP*	FN*
ethanol	12=15%	0=0%	69=85%	0	0
ethylglucuronide	0=0%	11=14%	70=86%	0	0
confirmation:	pos.	neg.	not tested		
ethanol	9=11%	0=0%	72=89%	0	0
ethylglucuronide	0=0%	1=1%	80=99%	0	0

Screening ethanol



Confirmation ethanol



Discussion by dr. T.M. Bosch:

This was a urine spiked with midazolam 99 µg/L, THCCOOH 80 µg/L and ethanol 2,712 g/L.

For the cannabis screening there are 10 laboratories that screen negative, while the concentration is still considerably above the cut-off value. At lab no. 3214 a POCT test was performed as a screening (which was positive) and as confirmation an immunoassay (EIA) test was used that turned out to be negative. To use an immunoassay test as a confirmation analysis is not appropriate and should not be applied. This also does not meet the requirements set for confirmation analyzes in the guidelines of

the EWDTS (European Workplace Drug Testing Society). Confirmation analyzes must be performed by means of a chromatographic technique and must be quantitative.

In the case of benzodiazepine screening, there are a number of laboratories that nevertheless score positively (n = 5), 3 of which have been performed with rapid point of care tests. Midazolam is found correctly during the confirmation analysis and is reported as positive.

Many laboratories have not tested for ethanol. The urine sample was only spiked with ethanol and not with ETG (the metabolite of alcohol). Only 11 laboratories screen for ETG. All the laboratories that screened for ethanol, found a positive result. 9 Laboratories have also carried out a confirmation where the concentrations corresponded well with the spiked value (2.55 - 2.8 g / L).

The symptoms displayed by the patient in this case do not fit with THC or ethanol intoxication. The patient has a GHB withdrawal. The patient has attempted to resolve the GHB withdrawal himself by using THC and ethanol. Unfortunately not with the desired effect.

There are 15 laboratories that screened for GHB. Of these, 2 were positive. In a laboratory (No. 3172), sample exchange between A and B has probably occurred. There are indications that high concentrations of ethanol can lead to positive GHB screenings. Of the laboratories that screen for GHB by immunoassay (n = 5), there is 1 laboratory (3612) that screens positive (10.7 mg / L). A laboratory screens negative with a GHB value of 11.4 mg / L (3260). Has this laboratory adjusted the cut-off value? The other laboratories that screened for GHB (n = 13) used GC or HPLC techniques and reported negative results for GHB.

There are some laboratories that suggested that designer drugs or NPS could have been used. That is not the case here.