

When immunoanalysis seems more reliable than LC-MS-MS Importance of ion ratio calculation

M. DEVILLE¹, C.CHARLIER¹

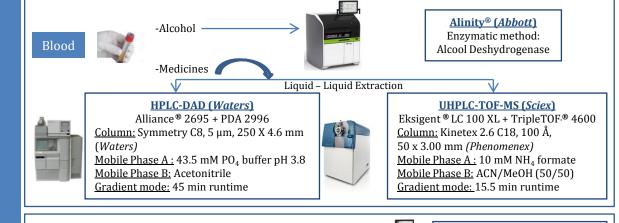


1. Laboratory of Clinical, Forensic, and Environmental Toxicology, Center for Interdisciplinary Research on Medicines (CIRM), University Hospital of Liege, Belgium

Introduction

A 17-year old young woman was under the regular care of a psychiatrist for school dropout and borderline personality disorder. She confessed the occasional consumption of amphetamines, cannabis, benzodiazepines (prescribed but also from her mother) and methylphenidate (from a friend). In order to perform an unbiased psychiatric evaluation, it was mandatory to know if the patient was under the influence of drugs during the consultation. In this context, a general unknown screening was performed.

Material and Methods





Screening for drugs of abuse —
 Confirmation for drugs of abuse

UPLC Acquity ® + Quattro Premier ® (Waters)

Cannabis (Liquid-liquid extraction)
Column: BEH C18, 1.7 μm, 50 X 2.1 mm (Waters)
Mobile Phase A: 10 mM NH₄ bicarbonate pH10
Mobile Phase B: methanol
Gradient mode: 3 min runtime



Cocaïne - Opiates - Amphetamines (SPE)
Column: HSS T3, 1.8 μm, 100 X 2.1 mm (Waters)
Mobile Phase A: 5 mM NH₄ formate pH3
Mobile Phase B: 0.1% formic acid in methanol
Gradient mode: 19 min runtime

Alinity® (Abbott)

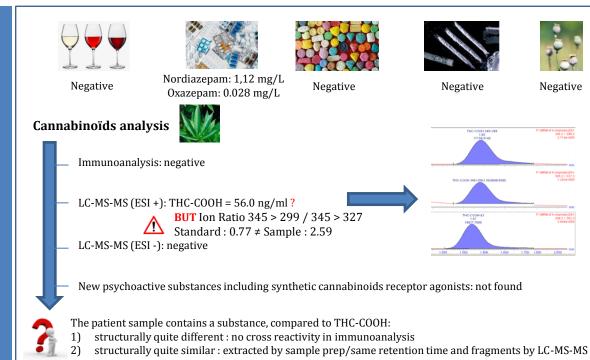
Immunoenzymatic method: Glucose-6-Phosphate

Deshydrogenase

-Screening for NPS: same method than medicines (UHPLC-TOF-MS) $\,$

Results &

Discussion



Conclusion

This case illustrates the absolute necessity to calculate ion ratios to ensure the specificity of a mass spectrometric identification. A well trained staff attentive to this point will avoid misleading conclusion.