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P115. DETECTION OF CATHINONES IN URINE BY LIQUID CHROMATOGRAPHY-TANDEM MASS SPECTROMETRY WITH A VALIDATED METHOD

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Cathinone is the principal active constituent of the Khat plant (Catha edulis), and has similar stimulant properties to natural amphetamine. Khat leaves are chewed as a recreational drug especially in Arabian Peninsula and East Africa. Internationally, cathinone is a Schedule I drug under the Convention on Psychotropic Substances. Substituted cathinones are derivatives of cathinone; some of them have medical uses as well, but some are strong psychoactive drugs and commonly sold in “bath salts”. Their use may have very serious public health and safety consequences. Therefore, testing for these drugs is an important issue for laboratories. Their potential for thermal instability during gas chromatography- mass spectrometry and the need for sensitivity in forensic toxicology determinations liquid chromatography-tandem mass spectrometry LC-MSMS is preferable for the determination of synthetic cathinones in biological samples.

Our aim was to develop a validated LC-MSMS method for determining synthetic cathinones (Methedron, Buphedron, Mephedron, Alpha-PVP, Bupropion, d,I-4-etilmetcathinon) in human urine samples. For this purpose, we used certified standard materials with an internal standard solution and gradient grade chemicals. We studied the linearity, LOD, LOQ, accuracy and imprecision, repeatability, reproducibility, recovery and carry-over as validation parameters of the assay. Tandem mass spectrometric detection at positive electrospray ionization in the MRM mode was used. The results indicated that all parameters were in acceptable analytical ranges. This validated method is suitable for analyzing cathinones in clinical and forensic toxicology cases.

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