this study we examined blood cyanide concentration in 12 cases of fire fatalities. Simple microdiffusion procedure was used as a analysis method of cyanide. In 12 cases of fire victims, blood cyanide concentrations averaged 2.30㎍/㎖, with a range of 0.64-4.27㎍/㎖.

[PA4-3] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Quantitative correlation of MA concentration among the hairs in forensic evidence

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This study was designed to compare the results and concentraions of methamphetamine (MA) and its metabolite amphetamine (AP) in head hair and hair collected from different parts of the body (axullae, pubis, and leg). Hair of subjects (N=15) suspected for MA abuse was simultaneously collected. Hair preparation involves washing step, fine cutting, overnight extraction, derivatization by the trifluoroacetic anhydride, and gas chromatography/ mass spectrometry (GC/MS) using selected ion monitoring. In this study, we found a good correlation of the result between head hair and hair of other parts of the body. There were some differences of MA and AP concentration in head, axillary, and pubic hair. Namely, axillary and pubic hair had the higher MA and AP concentrations than head hair.
Despite the small number of subjects, this study has been proved to compare the MA results and concentrations in head, axillary and pubic hair.

[PA4-4] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Quantitative Analysis of amphetamines in hair by EI-GC-MS using SIM mode with uncertainty estimation

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A method using EI-GC-MS is described for the determination of amphetamines in hair. The method is applied to simultaneous quantify amphetamines (methamphetamine, amphetamine, MDMA and MDA). Drugs were extracted in 1% HCl in methanol from hair. After derivertization with TFAA, the resulting drugs were seperated on HP-5MS column during a 16 min program and identified by mass spectrometry with the SIM mode(EI-GC-MS). Method validation was fully done as follow.The calibration curve ranged from 0.25 to 10 ng/mg and the coefficient determination was R2 >0.99 . Within-and between run precisions were measured, using three different concentrations(low 0.8ng/mg, med 4n g/mg, high 8ng/mg). % CV of their precision were under 12.3%. Those accuracy(% bias) were 10%. The limit of detection and quantification of all analytes were 0.125 and 0.25ng/mg, respectively. The specificity in hair was observed from blank hair and dyed artificial hair. And the selectivity of amphetamines in hair was observed by spiking high concentration inteferent chemicals into low QC hair samples(0.8ng/mg). After comparing with control samples, there were no interferences in this method. To value the confidence of the method, they were performed at the cut-off level 5ng/mg spiked hair samples according to the guideline of EURACHEM.