

Ecstasy (MDMA) detected in 3 years old semen stains in a case of sexual assault

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INTRODUCTION: Three years after a sexual assault on a 9 year old girl, we were asked by the public prosecutor to investigate different small and hardly detectable spots (probably dried semen drops) on the seized jeans and the slip of the young girl. We had to search for drugs of abuse, especially for 3,4-methylenedioxymethamphetamine (MDMA).

METHODS: We cut out different tissue samples (approx. 2 × 2 cm) from the jeans and the slip of the girl. To each sample we added 6 ml of 0,1 M phosphate buffer (pH 6), 200 µl methanol, and 50 ng d5-MDMA as internal standard. Extraction was performed by ultrasonic treatment for 2 hours and shaking over night. All extracts were purified by solid phase extraction, derivatized, and analyzed by GC/MS-SIM. Quantitation was made using a single-point calibration based on the d5-MDMA. Positive and negative controls were also processed.

RESULTS: See table 1 on next page.

Sample	Sample from	Description	Results by GC/MS-SIM
# 1	Slip	Sample 1 (probably from a semen stained area)	found 17 ng MDMA
# 2	Slip	Sample 2 (probably from a semen stained area)	no MDMA detected
# 3	Slip	negative control 1	no MDMA detected
# 4	Slip	negative control 2	no MDMA detected
# 5	Slip	positive control 1 spiked with 50 ng	found 49 ng MDMA
# 6	Jeans	Sample 3 (probably from a semen stained area)	found 30 ng MDMA
# 7	Jeans	Sample 4 (probably from a semen stained area)	no MDMA detectable
# 8	Jeans	Sample 5 (probably from a semen stained area)	found 32 ng MDMA
# 9	Jeans	negative control 3	no MDMA detected
# 10	Jeans	negative control 4	no MDMA detected
# 11	Jeans	positive control 2 spiked with 50 ng MDMA	found 48 ng MDMA
# 12	only chemicals	negative control 5 of the system	no MDMA detected
# 13	only chemicals	negative control 6 of the system	no MDMA detected
# 14	only chemicals	positive control 3 of the system spiked with 50 ng MDMA	found 50 ng MDMA
# 15	only chemicals	positive control 4 of the system spiked with 50 ng MDMA	found 50 ng MDMA

TABLE 1. Overall results from specimens collected at the roadside

In none of the tissue samples MDEA, amphetamine, methamphetamine, morphine, codeine, acetylmorphine, cocaine, methylecgonine, benzoylecgonine or methadone were found.

CONCLUSIONS: The offender, a 20 year old man, was arrested about 2 1/4 years after the crime and convicted by a DNA analysis of the semen stain on the slip of the young girl. He claimed he had taken 5 to 10 ecstasy pills in the hours before the crime. An attempt of a general interpretation revealed that his statement possibly could be true. Please notice that there are no data available about the correlation of MDMA dose and semen fluid concentration.

KEYWORDS: Ecstasy, 3,4-methylenedioxymethamphetamine, Semen, Slip, Sexual assault

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