

Imperial College
London

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Signature

TOXICOLOGY REPORT

IMPERIAL COLLEGE LONDON, ST DUNSTAN'S RD, LONDON, W6 8RP.
Telephone: 020 8846 7108 Fax: 020 8846 7110

Name:	TAYLOR, Jack	TOX No:	1772/15
Ref No:	HMC 01973-2015 PM414/15	PM Date:	17/09/2015
Mortuary:	Queens Hospital	Receipt Date:	24/09/2015
Pathologist:	Dr. G. Soosay	Report Date:	12/10/2015

Ethanol

Blood : 96 mg/100ml

Urine : 140 mg/100ml

Blood ethanol : legal limit for driving 80 mg/100ml
100 - 200 mg/100ml - associated with drunkenness
200 - 300 mg/100ml - coma may occur
Greater than 400 mg/100ml - associated with death

Gamma-hydroxybutyrate (GHB)

Blood : 203 ug/ml

Urine : Positive

In ante-mortem blood, endogenous GHB concentrations are usually below 5 ug/ml. In post-mortem blood, endogenous GHB concentrations are usually below 30 ug/ml. However, highly putrefied blood may give rise to higher endogenous GHB concentrations.

The presence of GHB at higher concentrations may indicate ingestion of GHB (or related compounds gamma-butyrolactone (GBL) or 1,4-butanediol).

Non-fatal overdoses of GHB have been reported with blood concentrations up to 551 ug/ml.

In seven deaths attributed to GHB abuse, post-mortem blood concentrations ranged from 27 to 1030 ug/ml. A post-mortem blood GHB concentration of 538 ug/ml was detected in a man who committed suicide by ingesting GBL.

GHB is an anaesthetic and hypnotic drug. It is used as a drug of abuse for its euphoric effects. However it can also cause drowsiness and unconsciousness.

Methylamphetamine

Stomach Contents : Positive

Blood : 0.80 ug/ml

Urine : Positive

Plasma concentrations associated with recreational use : 0.01 to 0.05 ug/ml
Potentially fatal blood concentration : greater than 10.0 ug/ml

Compound structurally similar to mephedrone

Blood : Trace amount

This compound is a new psychoactive substance (NPS), possibly 4-chloromethcathinone (clephedrone), which is structurally similar to mephedrone. As there is no reference standard available for confirmation, identification was achieved by matching the spectral data obtained to a published paper. There is no information available regarding the toxicity of this compound.

Propranolol

Stomach Contents : Positive

Blood : Not Detected (Limit of detection 0.10 ug/ml)

Urine : Positive

Therapeutic plasma concentration : 0.05 to 0.3 ug/ml
Potentially toxic concentration : greater than 1.0 ug/ml
Potentially fatal blood concentration : greater than 4.0 ug/ml

Propranolol is a beta-adrenoceptor blocking drug used in the treatment of hypertension, angina and arrhythmias. It has a relatively low volume of distribution, so increases in concentration after death due to post-mortem redistribution will be low.

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Morphine (free)

Blood: Not detected (Limit of detection 0.01 ug/ml)

Therapeutic plasma concentration : 0.04 to 0.50 ug/ml

Potentially fatal blood concentration : greater than 0.15 ug/ml

As morphine induces tolerance, there is great variation in both therapeutic and fatal concentrations. Fatalities can occur at a lower concentration if alcohol and/or benzodiazepines are also present.

NO OTHER DRUGS DETECTED IN GENERAL SCREEN OF STOMACH CONTENTS OR BLOOD

NO OTHER DRUGS OF ABUSE DETECTED IN URINE

(PTO for common drugs detected)

CLEAR FLUID

Analysis of the clear fluid showed the presence of gamma-hydroxybutyrate (GHB). GHB is usually presented as a powder while gamma-butyrolactone (GBL) is presented as a liquid. However, when ingested, GBL is rapidly converted to GHB. Similarly, during analysis, GBL is converted to GHB.

POWDER

Analysis of the powder showed the presence of a compound structurally similar to mephedrone, possibly 4-chloromethcathinone (clephedrone), a new psychoactive substance (NPS). As there is no reference standard available for confirmation, identification was achieved by matching the spectral data obtained to a published paper. There is no information available regarding the toxicity of this compound.

Signed Signature
Dr Rebecca Andrews PhD
Senior Toxicologist

Samples submitted from this case will be destroyed 4 months after date of receipt unless notified otherwise in writing