Drug-facilitated sexual assault (DFSA) – The observations of a UK based laboratory

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INTRODUCTION

The Forensic Toxicology Service at St. George's - University of London investigated 95 cases of alleged DFSA between March 2007 and January 2009. A total of 90 urine and 52 blood samples were received from police forces on behalf of Cellmark Forensic Services. Of the complainants 86% were female and the mean age was 24 years. Alcohol or drugs were detected in 69% of cases. Alcohol was detected in 54% of cases at a mean concentration of 161mg/dL (n=48) in urine and 74mg/dL (n=13) in blood. A drug was detected in 40% of cases and two or more drugs (excluding metabolites and suspected adulterants) in 20% of cases. Illicit drugs were the most frequently detected (n=25), the most common being cocaine (n=18), followed by cannabis (n=10). The most commonly detected medicinal drugs were fluoxetine (n=4) and citalopram (n=4). The classic 'date rape drugs' - flunitrazepam (Rohypnol®) and GHB (gammahydroxybutyrate) as portrayed in the media, were not detected in any cases, but ketamine was detected in one case. Vital evidence in these cases may have been lost due to delayed presentation, but these findings suggest that alcohol, and not drugs, appears to pose the biggest "date rape" risk.

Definition of DFSA

'All forms of non-consensual penetrative sexual activity whether it involves the forcible or covert administration of an incapacitating or disinhibiting substance by an assailant, for the purposes of serious sexual assault: as well as sexual activity by an assailant with a victim who is profoundly intoxicated by his or her own actions to the point of near or actual unconsciousness.'

Advisory Council on the Misuse of Drugs (ACMD) – April 2007

CHALLENGES FOR THE TOXICOLOGIST

- Therapeutic drugs
- High potency / active at low doses
- Short half life / detection window
- Complicated by metabolism
- Chemical instability
- Poor response to immunoassay
- Amnesic effect
- Delayed presentation
- Complainant may have used alcohol or recreational drugs

Negative results may mean that no drugs were used, the time interval between the incident and sample collection was so long any drug had been eliminated, the methods used may not have been sensitive enough to detect a drug still present or the drug was not one being targeted by the analyst.

Study	FSS	Birmingham	Guys & St Thomas'	St George's
Investigation	Forensic	Clinical	Clinical	Forensic
Period	Jan 00-Dec 02	02-04	Dec 04- Oct 05	Mar 07-Jan 09
Participants	1014	169	78	95
Mean age	N/A	25	24	24
M/F (%)	N/A	34/66	18/82	14/86
Alcohol positive	46% (81% n=391)*	24%	90% (= 12hrs)	54%
Mean BL/SM alcohol	N/A	46mg/dL	165mg/dL	74mg/dL
Mean urine alcohol	N/A	72mg/dL	N/A	161mg/dL
Illicit Positive	34%	21%	15%	26%
Most frequent illicit(s)	Cannabis (26%) Cocaine (11%)	Amfetamines (11%) Cannabis (9%)	MDMA Cannabis	Cocaine (19%) Cannabis (11%)
Most frequent non-illicit	Diazepam	Temazepam (and/or metabolite)	Dothiepin (n=1)	Fluoxetine (n=4) & Citalopram (n=4)
Poly-drug use (excluding alcohol)	8% (>1 illicit) 2% (>3 drugs)	7% (>2 drugs)	0% (>1 illicit)	20% (>1 drug) 12% (>2drugs)
GHB	2 (0.2%)	0	1 (1.3%)	0
Flunitrazepam	0	0	0	0
Deliberate spiking?	2%	N/A	3%	3%
Reference	J Clin Forensic Med (2005) 12(4):155-176	Sci & Justice (2005) 45(3):132-134	Postgrad Med J (2007) 83(986):754-8	Unpublished

* Presentation within 12 hrs (J Clin Forensic Med (2006) 13:107-111)

Table 1. Summary of published UK data on DFSA

Prevalence

41,460 serious and 12,080 other sexual offences were recorded in 2007/08.

British Crime Survey, 2007/08

BARRIERS TO SUCCESSFUL PROSECUTION

Under reporting
Delayed reporting
Contradictory evidence – 'he says / she says'
Victim does not pursue case
Undermining credibility / victim blame
Suspect not identified / caught
Long delays in court proceedings

Only 5.3% (1 in 20) of reported rapes in the UK resulted in a criminal conviction in 2004.

Office for Criminal Justice Reform, 2006

ATTITUDES TO RAPE RESPONSIBILITY

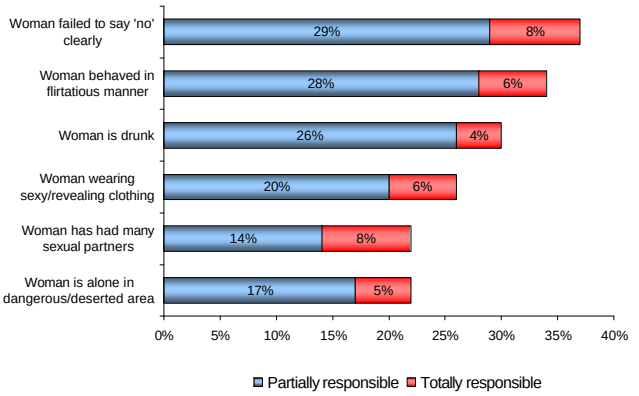

Figure 1. Results of an ICM Research telephone Survey of 1,095 adults aged 18+ Oct 2005

SAMPLING

Urine is the specimen of choice for investigation of DFSA.

Urine: collect within 96 hours of the alleged drugging.
Blood: collect within 24 hours of the alleged drugging.

After these times the likely detection of drugs or their metabolites is greatly reduced.

Hair: collect if there has been a delay in reporting of the assault.
Others: vomit, soiled bedding, tablets, capsules, powders, herbal material, paraphernalia, glasses, bottles, liquids, food.

Lebeau et al. 1999

ROHYPNOL®

Rohypnol® was discontinued in the UK in March 2004 and the licence expired in August 2004. However it is still available in other countries in Europe including Austria, Belgium, Cyprus, Denmark, France, Germany, Greece, Iceland, Ireland, Italy Luxembourg, Norway, Portugal and Spain.

The manufacturer has responded to concerns regarding its potential use in drink spiking, by colouring and film coating the tablet to make it slower to dissolve and increasing its visibility. When dissolved in liquid it releases particulates and a bright blue colour.

plus one 1mg Rohypnol® tablet

CONCLUSION

DFSA is a problem. Its prevalence is badly documented because data are difficult to collect. There is often significant delay in the victim presenting to the police after the event, the histories are vague and incomplete, there is a wide range of drugs of potential interest, and the analysis and interpretation of findings is complex.