"Methamphetamine abuse: Psychosis Violence and Intent"

Auckland Medico-legal Society Speech.

Tuesday 7th September 2004

Introduction

Thank you Christine and good evening ladies and gentlemen

As Mark has said, I am a forensic psychiatrist working both in the public and private sectors. As you will know, Forensic psychiatry is a sub-specialty of psychiatry dealing with the assessment, treatment and rehabilitation of mentally abnormal offenders.

Over recent years I have had cause to interview, assess, write reports for the Court about and treat defendants facing very serious charges for violent acts in which the abuse of methamphetamine featured significantly.

In the next 20 minutes I will take you on a whirlwind tour of some of the clinical aspects of Methamphetamine.

I will make some observations about the association between this drug and the state of 'psychosis' and I will describe how it has, in my opinion, become the single most significant contributor to serious, impulsive violent offending over recent years. Lastly, I

will briefly discuss a particular medico-legal issue, namely the defence of insanity, and the way in which this drug presents a number of challenges to the medical and legal professions alike.

As Christine has already described, 'P',' Pure' or 'Meth', has become a major problem. Local research and clinical anecdote suggests that it is an increasingly common part of presentations to accident and emergency departments, acute psychiatric wards and forensic psychiatric services.

In addition to the myriad of social and economic problems associated with Methamphetamine abuse, it can cause, and exacerbate, significant physical problems. But perhaps its most concerning effects are related to its role in causing psychotic symptoms and in precipitating acts of serious violence.

To paint a picture; of the last 10 criminal trials in which I have been asked to give evidence, all but one have involved the abuse of alcohol or drugs by the defendant. Of the last 5 homicides that I have been involved in 4 involved the abuse of methamphetamine. Of the last 5 insanity trials that I have been involved in, P was a factor in 3. I am currently involved in 3 cases involving serious violence or homicide. P features in 2 of those.

I thought that it might be helpful to briefly review some of the background to, and the pharmacology of, Methamphetamine.

Methamphetamine is a Central Nervous System stimulant that is structurally similar to, but much more potent than, Amphetamine. Amphetamines were first synthesized in 1887, and Methamphetamine approximately 60 years later. Amphetamines were first commercially available as nasal decongestants in 1931 and have been marketed over the years as treatments for narcolepsy, obesity and Attention Deficit Hyperactivity Disorder in children. They have been used over the years for their ability to keep one awake, by students, businessmen and routinely by soldiers in active duty in the English Canadian and Japanese armies, in various wars.

The increasing concern voiced about Methamphetamine in New Zealand, concern that is equally shared by many other nations from within the OECD. Over recent years this concern has been well covered by the media. In the six months to January 2004, 92 articles, featuring the anti-social effects of Methamphetamine were published in the New Zealand Herald with headlines such as:

"Pushers tempt children with free hits of P" or

Sentencing Judge urges drastic measures on P" and:

"Vicious Drugs' Grip widens"

This concern appears to be backed up by empirical research which supports the increased use and detrimental effects of P use, across all social groups, most marked in 15-24 year olds.

The Amphetamine group of compounds all has a phenyl isopropyl amine structure with different side groups. There chemical structure is very similar to other biogenic amines eg adrenaline.
Methamphetamine is one of these compounds. As you can see it is very similar to, and can easily be manufactured from, Ephedrine by the reduction of a hydroxyl group (that is the removal of an O" and an "H").

You will see on this slide how similar the two compounds are and how small, yet potent, and lucrative, this change is.

Methamphetamine is a very potent stimulant of the Central Nervous System. It can be smoked without breaking down and therefore has more rapid effects in the brain, it has a much longer half life than other commonly used stimulants (with central effects of up to 12-24 hours) and it has increased central effects as opposed to peripheral effects.

Methamphetamine has a range of effects on many organ systems in the body but its most significant effects are in the brain. Its main mode of action centrally is to stimulate the Dopamine pathways. Its effects are dose related and users can develop a tolerance to the effects of the drug over time requiring higher doses for the same effects.

Characteristically the user experiences the rapid onset of overwhelming pleasure, accompanied with increased wakefulness and reduced hunger and fatigue.

Doesn't sound bad I hear those overworked registrars and staff solicitors amongst you say.

The user becomes more active generally, more talkative, restless and irritable, becoming more easily agitated for little reason.

Starting to sound like your boss I hear the same group mumble.

Users can also become highly aroused, very guarded, suspicious and impulsive and judgment can become grossly impaired.

Some users completely lose touch with reality and develop symptoms of acute psychosis. They can develop intense paranoia (believing that they will be hurt or killed by others) grandiose thoughts (that they have unlimited power or ability) and self referential ideation (that others are watching them, that TV is talking to them) and they can begin to hear voices and see and feel things that with no obvious external stimulus for those experiences.

In fact, the extreme presentation of Methamphetamine intoxication looks very similar to acute paranoid Schizophrenia.

I am reminded here of the case of a 28 year old man who had a diagnosis of Schizophrenia and who suffered an acute relapse of his illness bought on by heavy methamphetamine abuse. He became so severely psychotic, believing that his neighbors were part of a plot to kill him that he drove his car through their lounge room wall in order to confront them with his fears. Luckily they were not home at the time.

This causative relationship between Methamphetamine abuse and psychosis is hardly surprising when we consider that the Dopamine pathway is primarily implicated in Schizophrenia, that a significant contribution to what is known as the 'Dopamine Hypothesis of Schizophrenia' (described some 60 years ago) was based on early experiments using amphetamine and that most anti-psychotic medications work by blocking Dopamine activity.

Interestingly, some users who have some insight into their propensity to become psychotic when intoxicated are taking prophylactic anti-psychotic medication before smoking 'P'.

These acute effects of 'P' can last for up to 12-24 hours following which the user experiences a profound "crash" and a longer period of withdrawal during which they can experience mood swings with severe depression, fatigue, headaches, agitation and, in some cases suicidal thoughts.

So, the quick onset of the early, very pleasurable effects, which can be long lasting coupled with the profound withdrawal causes users to crave it again to escape the withdrawal and to relive the ecstasy of intoxication.

In the long term, Methamphetamine can cause irreparable damage to almost all organs, particularly the Liver, Kidneys, immune system and brain. Chronic use can cause longstanding psychological and psychiatric problems.

This is a slide of the brain of a Methamphetamine user of 15 years. Note the widespread loss of brain tissue.

There is a wealth of evidence (in rodents, primates and human subjects) describing the association between Methamphetamine and aggression. I have interviewed a number of defendants who, whilst they may have had histories of violence, described a qualitative difference in their experiences as perpetrators of that violence, while using Methamphetamine.

I have already described the general link between Methamphetamine and psychosis but the exact association may be different for different people. The psychosis may just be a function of acute intoxication and pass spontaneously as the drug is cleared from the body. The psychosis may be drug induced, denoting a longer time frame than just intoxication. The psychosis may represent an acute relapse in someone with a previous diagnosis of Schizophrenia or the onset of a new illness, thus far not diagnosed. The

idea that a drug may cause a chronic remitting and relapsing psychotic disorder which persists, in the absence of continued use of that drug, is a challenge to our current thinking.

Clearly, whilst the signs and symptoms may be the same, Schizophrenia is a longitudinal diagnosis requiring the passage of time

The major medico-legal implication of this is whether, at the time of assessing a defendant, it is possible to know which of these psychotic syndromes the defendant suffers and if it can be considered (in the eyes of the law) to constitute a "disease of the mind" and therefore potentially qualify the defendant for a defence of insanity.

I have seen a number of cases in which I believe that there is a clear link between Methamphetamine abuse, psychosis and violence.

One case stands out in my memory. I was asked, by the defense, to see a young man who was facing a charge of murder. He had been smoking P for 3 days with no sleep. He was extremely paranoid, aroused and "wired" as he described it. He went to a party at a gang headquarters and was sitting at the bar when a man he did not know sat next to him, but did not speak directly to him. He became intensely paranoid of this man and convinced that he was talking about him and going to hurt him. He pulled a revolver out of his jacket and shot the man at point blank range.

When I saw him, he was intensely sorry for the hurt that he had caused the man's family, not to mention the problems that he caused the gang. He said that this episode had been much more impulsive and extreme than his previous violence and he had difficulty in understanding how it had happened but he refused to talk with me in any way that might assist him in his defence. He pleaded guilty and was duly sentenced to life in prison.

I believe that there is a critical mix of factors that sometimes come together to significantly increase the risk of serious, impulsive violence (both to the defendant themselves as well as to others). Particularly the combination of significant arousal, irritability, sleep deprivation and intense paranoia, when coupled with the extreme disinhibition and impulsivity that P can cause, in a defendant who has used violence before and is often living in very unstable circumstances is a time bomb waiting to go off.

Even without legal training then, it is possible to see that a defendant, when intoxicated with Methamphetamine and psychotic MAY lack the capacity to develop the requisite intent to commit a crime, necessary for a conviction. So, there may be situations in which defences of intoxication (for crimes of specific intent) and possibly of automatism may be raised.

The area with implications for us all and that I am particularly interested in is where a defence of insanity might be available to a defendant who has been using P, becomes psychotic and commits a violent crime. As I said earlier, I have already been involved in

a number of these and they present a number of challenges to the disciplines of law and psychiatry.

Insanity (as defined in Section 23 of the Crimes Act) says-

No person shall be convicted of an offence by reason of an act done or omitted by him when labouring under *natural imbecility* or ***disease of the mind*** to such an extent as to render him incapable-

(a) Of understanding the nature and quality of the act or omission or;
(b) Of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.

You can see, that in order to qualify for this defence you must first prove that you were either suffering from natural imbecility or a "Disease of the mind" and that (as a result of that disease of the mind you were incapable of knowing what you did or that it was morally wrong.

Psychiatrists and the Courts generally accept that disorders such as Depression, Schizophrenia and Bipolar Disorder qualify as Diseases of the mind.
In a number of cases recently, the Courts have accepted that Methamphetamine abuse precipitated an acute psychotic relapse in defendants who suffered from pre-existing Schizophrenia and that this constituted a disease of the mind.

But what about psychosis secondary to Methamphetamine intoxication or a Methamphetamine induced psychosis? Can these be considered to be Diseases of the mind?

There have been cases in other jurisdictions where Methamphetamine psychosis has been accepted by a Mental Health Tribunal to constitute a 'disease of the mind' which would avail the defendant of a defence of insanity. This has, however, caused significant consternation amongst medical and legal minds alike.

How can we know whether what we have seen at the time of our initial assessment of the defendant is the first episode of a Schizophrenic disorder without the opportunity for longitudinal observation and assessment?

Clearly, given the significance of the longitudinal course in determining diagnosis, it is very difficult to tell "how much" of any presentation is "disease" and how much is just an intoxicant effect. Although impossible to answer definitively, I have, on more than one occasion been asked to comment on exactly this.

I am aware of a number of cases yet to come before the Court where exactly this may be the critical issue.

On one hand, the mental state and motivation for certain behaviour on the part of a defendant suffering from an intoxicant state or a drug induced psychosis might be indistinguishable from that of a defendant suffering an acute relapse of a Schizophrenic disorder yet, on the other hand, it might be argued that the intoxicant state or the drug induced psychosis were a function of an external stimulus (namely methamphetamine) and, therefore, not a “disease of the mind”.

In saying this, I am mindful of the complexity of the words “disease of the mind” (which has a specific legal connotation) as opposed to “disease of the brain” which is a concept that most doctors would feel more comfortable with.

If it is possible to successfully argue that states such as psychosis secondary to Methamphetamine intoxication or Methamphetamine psychosis constitute a “disease of the mind” then this will have huge implications for the Courts, with many more such cases being bought, and for a finite number of Forensic facilities into which such persons will be detained as Special patients for treatment.

In closing, can I thank Christine Gordon for her wonderful earlier address, her staff for assistance in the preparation of these slides and the Medico Legal Society for asking us to speak here tonight.

Thankyou.