8 FOLD RISE IN GHB/GBL/1,4-B AND 3 FOLD RISE IN METHAMPHETAMINE PRESENTATIONS

Karl Jansen
Auckland Hospital, New Zealand

Now some of the data that I am going to present today was actually collected by my co-presenter, Lynne Theron, who is sitting over there, but we decided that I would do most, if not all, of the presentation, just because of the way in which these rooms are set up, their not particularly set up for co-presenting.

What I am going to talk about today is this very big rise in GHB presentations in the Auckland Emergency Department, in New Zealand, that happened over a three to four year period. It is a very sharp rise and I think this rise reflects pretty much what has been happening in a lot of other places. I am also going to talk a little bit about the three-fold rise in methamphetamine use over this period, but which was less marked. And when we look at 2003 and what we know is happening now in the first bit of 2004, we are not really seeing that as such a huge trend.

The first thing I want to start off with is something that is not often talked about. You may remember yesterday, I started to talk a little bit about our terms, because I do not think that those terms are re-examined nearly often enough. We just assume that we are all talking about the same thing, but I am not so convinced about that, so I wanted to talk firstly about just what is an overdose, before we even start talking about GHB?

It is important to understand that overdose is not an absolute term. There is no such thing as absolute overdose. It depends on what you are trying to achieve. If you are trying to commit suicide and you take the dose that works, it is not an overdose. It is exactly what you had in mind. If you are trying to commit suicide and you eat four aspirins, it is not an overdose, it is a serious under-dose, because it did not work. If you switch to a drug like Ketamine for example, the dose that you might take, if you were out on some dance floor, would be tiny compared to what you would take for an operation that an anaesthetist might give you. You might fall over on the dance floor and get rushed to hospital and people will say “that is a Ketamine overdose”, but the surgeon would say “overdose, what are you talking about, I am not operating on this guy, he has got to have about ten times more than that”, and it is really important to grasp that. Overdose is relative, so when you read in the newspaper about people being ‘rushed to hospital with overdoses’, you have to think “well it might not be, or it might be the dose I would take before I go anywhere on a Saturday night. That is not my idea of an overdose.”

So when you are asking yourself “is that an overdose?” you need to know the purpose for which the drug is intended. Why was that person taking or given that drug? Where were they when they took that drug? If they are lying flat on their backs in bed, or if they are standing up somewhere - all of those things will influence your view about whether that was an overdose or not. What route of administration is it? Did they swallow it or did they stick it straight into their necks? Who is the User? What sort of tolerance do they have? Some people who take a lot of GHB, for example, have got very high tolerances because it is a dependence-inducing drug, a very nasty dependence actually. We know that alcohol can be nasty, and occasionally

barbiturates and valium can be nasty, but this one is very viscous; you get quite nasty fits and panic attacks, and shake like a leaf. I have treated a number of people now with GHB dependence, and it is fairly ugly. And what other drugs have they taken? You should ask these questions before you start to say: "Oh this is an overdose".

So what is GHB? Well I do not know if other people have used this term, but I have tended to call this whole group the 'anaesthetic euphoriants'; GHB, GBL and 1,4-B. I do not know if that is their official classification, but to my mind they are 'anaesthetic euphoriants'. I would not put a drug like Ketamine or PCP (Phencyclidine) there, because they are 'dissociative anaesthetics', a different group again. And then of course you have got your 'psychedelic drugs', like LSD, which are different again. Then you have your 'empathogens', like ecstasy, because its most distinctive effect is its empathy generating effect. But these anaesthetic euphoriants are not just anaesthetics. There are a lot of anaesthetics that do not generate euphoria, these do.

Gammabutyrlactone or GBL is, in some countries, actually the main type scene; 1,4-B or 1,4- butanediol, is probably the main one that we have seen in New Zealand in the last four years, usually known as 1,4-B. These two drugs are pre-cursors of GHB, and they are converted in the body extremely quickly into GHB, so most people say: "let's not bother giving them all different names, we will just call them all GHB." For most of this talk, when I say GHB, I mean all of them including 1,4-B, and GBL. But if you are doing a literature search in this area, I do suggest searching 1,4-B. There are some very important papers on deaths from 1,4-B, which you may not pick up otherwise. I think in New Zealand we have been through all three of these. It changes a little bit from year to year and we have just had a large amount of this, but what I heard recently is that there has been a little bit of return to here, but at the end of the day, it does not matter, very quickly these two get converted to that, they have the same effect so we treat them as the same drug, but there is a lot of confusion.

' Fantasy' is a term I think that the media largely invented. It is pretty rare that I have ever heard a user of these drugs call it 'fantasy' it sounds so stupid, you know, it just does not have a ring to it. "Oh I did some 'fantasy'", it is not good. Most of the users I have spoken to say 'G', I did some 'G', but some of the bigger dealers I know started to call it 'Rinse'. This 'liquid e' thing is, once again, only popular with people who write papers - liquid ecstasy. I very rarely heard any actual users use that term either. It has a million other names because it is sold through the Internet little bottles and often people just call it whatever it said on the label.

It is a queer, colourless liquid, it stinks and it tastes disgusting. This is quite an important point, in terms of what we were talking about yesterday. Let us just say you are not going to slip 'G' into someone's drink very easily. If there is enough 'G' in your drink to knock you out, it is going to taste really bad. The people that do a lot of 'G' work hard on making their drinks taste good. They pour in the lemon juice, they pour in the gin and they still say it rips their throats out and that it is absolutely disgusting. So it is most unlikely you are going to be sipping your Chardonney with a whole lot of 'G' in it and not notice. We were talking a bit about the modern myth of Spiking, because most people just plain drink too much and then it has to be someone else's fault whatever happened and a lot of false attributions are made. So it does get put into people's drinks, but if there is enough in it to knock you out you are going to know about it. Try and taste some and see if you agree with me.

It is very important to understand that GHB occurs naturally in the body. This creates a huge problem for us. It would be great if you could snatch some urine off and say: "Yes, this person has had GHB." One of the reasons why I think some fantasies have grown up around 'fantasy' (GHB), in terms of drink spiking, is that once you are maybe six to ten hours down the track, you cannot pick it up in urine any more; what you do pick up is the body's base line. Your whole body has got GHB in it. You need a lot to get above your normal base line, because it is there anyway and you excrete it in your urine when you have had enough to alter your head. If you go off to the drink spiking rescue place and you give a urine sample after twelve hours, if there was any there, it has all gone. And it is possible for the drink spiker to feel secure and say "they will never find it", but it is also possible for someone who did not have their drink spiked to say "ok, they could not find it, because it has all been excreted, I have heard, so I must have had a spiked drink, you just could not prove it", so it works both ways.

I know other people are going to talk about this, so I do not want to spend a lot of time on this. It has been around since the 60's, it has been used in human medicine, it is a solvent, and 'body builders' have used it. It has definitely been used for date rape, we do not know how much, but we do think its use has been exaggerated.

Just going back to the question of "why take it?" the answer is simply: Because it is euphoric. Now I generally dislike that word 'euphoria' when people are writing articles about why do people do those drugs? And you see LSD, ecstasy - euphoria, euphoria, you think "God, people obviously do those drugs for other reasons", but, in the case of 'G', I think it is an exception, because it really does cause 'euphoria', and that really is why people take it. It really has a distinctive effect and I think 'euphoria' is the best word for it. Dis-inhibition, it is quite pro-sexual in a way that MDMA is not. I know the claim is made for every new drug that comes along; everything, tea, coffee - if you read back a few hundred years, tea was supposed to be the 'hot new sex drug'. LSD (Lysergic Acid Diethylamide), was also touted as new drug, new sex. Anything that alters your conscious is seen as being a little bit pro-sexual. But I do think this drug has a fairly specifically pro-sexual effect for once, after lots of disappointment. I just included this (referring to screen) as an image of euphoria - this is what we mean when we say 'euphoria'.

As you can see this euphoria is going to have really bad consequences (referring to the screen). So as you can see, sometimes things can get bad. Now this is the number one thing with 'G', and this is really why we are talking about it; 'G' is a huge cause of comma. When things go wrong on 'G' you get comma, you do not just get a bit of this or a bit of that, you actually pass out and you stop breathing. It is a really big deal. And you have a very typical agitation when you wake up. I have illustrated it for you here (referring to the screen) it looks like that. Seizures and shaking, low heart rate, low blood pressure, I do not want to get too deeply into this. What was the magnitude of the problem at Auckland ED? - review of the overdose database, I have already pointed out that it depends what you call an overdose, whether you register each presentation and database or not, it is one of the limitations of this study.

'G' is now a leading cause of drug-induced comma worldwide, on any given night. People come in, Glasgow comma score of 3, need the tube in, likely to be 'G', quite a

big problem. There were 21 overdoses in 1999, 162 in 2002, so it is quite a big problem in Auckland. Auckland might look a bit quaint from over here, but it is actually quite hardcore in some ways and that is actually an awful lot of people, for a hospital serving that inner Auckland population base. That is a lot of people doing 'G'. This is not just presentations, this is overdose data, this does not include people that came in who fell over and broke their arm while on 'G', these are people that are officially classified as 'overdoses'.

(Referring to screen) Here you can see the figures: amphetamine, I just put it up there in case you cannot read the fine print. This column here is amphetamine, this column here is Ecstasy, this column here is 'G' and that column there is something known as a 'spiked drink.' As you can see it is not very big, which I am sort of glad about because it is such a vague term. Here are the years, we have got 1999 in blue and we have got the latest one in this kind of pale blue colour. What we see is this big rise in 2002, right up there, huge rise, and that is just measuring the number of overdoses in that year. In this year there were a hundred and sixty something GHB overdoses in the twelve months.

In 2002 there were something like a hundred and sixty one people listed as having GHB *overdoses*, not just presentations to the emergency department. If we go back to 1999, we see the number is twenty something. You can also see a rise in amphetamine presentations; back in 1999 it was around about there (referring to screen) and then it goes up to here. The demographics show that males are somewhat more represented, but it is quite interesting how the sex difference evened out in 2002, and actually, in 2002, we see that women were more commonly presenting. That is quite an interesting shift, there is not a huge gender gap in Auckland around the use of the drugs. There is an awful lot of young women that go out and party very hard. So it is not a male dominated phenomenon.

Ethnicity is quite interesting, you see the sort of young, rich, white, middle class kids, massively over represented right through the whole of dance culture and then as drugs become better known, they tend to be adopted by other people as they become a bit cheaper. (Referring to screen) You can see the steady rise, it is only a small number of people but there is still a steady rise, in Maoris presenting, which is interesting. It is pretty much as you would expect, but some interesting changes with time, but much the same distribution.

(Referring to screen) That is probably only of interest to emergency department people, basically they were all discharged within eight hours, which fits the management model of the emergency departments, so they were all pleased about that. In some ways it is a good sign, as well, it means that a lot of these people get stuck on it. They look terrible when they come in, they look as though they are going to die. They have got a GCS of 3 and they are not breathing. You intubate them and then put them on a ventilator, they recover and then you can send them home again. So even though they look as though they are going to die when they come in, they are generally out again within eight hours. You do not even have to admit them.

Some limitations of the study: no urine testing, other presentations not included, some of these people have taken lots of drugs, the usual problems; GCS of seven is not good - a Glasgow Comma Score below 12 is basically a stupor, and below 9 you have

to rush in with the tubes (that is not a good situation). A bottle of liquid is what we look for in the pocket - it is always the thing to look for. Airways the first thing - why should I tell you if you are not physicians? Because quite a lot of people become unconscious at parties and in houses and it is important to realise they may be in need of medical attention.

(Referring to screen) Intubate and ventilate - got to get these people an ambulance, got to get a tube down them and got to get them CPR. I need to stress this because a little leaflet went round about 'G', written by Ward Dean, Samantha Miller, John Morgenthaler and Steven WM Fowkes, 'GHB: the Natural Mood Enhancer', that said: "it is fine, just leave them, they will sleep it off, they will wake up." It is very bad advice. If you go into a Comma on 'G' you need an ambulance, you have to go to hospital, you cannot simply wait for them to wake up.

(Referring to screen) New Zealand's first fatality: I wrote this up in a Journal. Internationally, this is the introduction to that fatality. The Co-ingestion of alcohol and other drugs are common in the deaths that occur, so it has been claimed, by people like the people who wrote 'GHB The Natural Mood Enhancer', that there are no deaths without alcohol or other drugs or Co-morbidity (that means other illnesses, like if you have diabetes, asthma, a bad heart or something) and all risks in high risks settings. They have been common features, but you do not have to have those things. There are some people who have been saying, "you have to have them or you will not die and it is all benign. I have actually seen these claims written and information sheets distributed with 'G', which I feel is quite outrageous.

(Referring to screen) The pamphlet distributed in Auckland just before this guy died, and this guy is the son of a fairly prominent gynaecologist, so take it from me this case was dissected from top to toe, it was also all over the media for ages. The pamphlet stated "there have been instances where people have been inappropriately taken to an emergency room when their friends found them unconscious and unrousable and assumed they were in danger. These individuals invariable woke up about three hours later, wondering where they were and why all these strange men were doing things to them. Unless other drugs and/ or alcohol have been consumed, the only treatment necessary is to allow the sleeping person to wake up naturally." It is very bad advice, and I know that the flat mates of this person, who were there when this person died, had read this pamphlet written by the life enhancement people in California.

(Referring to screen) Healthy twenty-two year old male and his girlfriend, they lost consciousness, they drank pure 1,4-B, it was analysed. There were other people at the flat and it was not a high-risk setting. They took as much as they had taken before, this guy is a very experienced drug user - there was nothing naive about him. I think he may have been studying for a degree in biochemistry; he really knew a lot about these drugs. He had too much, he had a fit and he went to bed. Three hours later he was found not breathing by friends. He had had no alcohol and he had had no other drugs, just this 'G', which came pretty much straight from a fairly major dealer. They did call an ambulance, he experienced cardiac arrest, and no initial bi-standard CPR had been performed. All these people in this flat had bothered to do this. It was definitely an overdose, brain death confirmed. The girlfriend recovered after six hours on a ventilator - that is pretty standard. (Referring to screen) Bottles, vomit, towels, it

was treated like a major crime scene. The police collected everything and it was all analysed, that is all there was, there were no other secret drugs. It really was a pure 1,4-B death, no alcohol and no co-morbidity.

If you are interested in any of my work, including my work about Ketamine, which I am not talking about this meeting, but if you are interested just send me an email. Or if you want a copy of our paper about the fatality, or if you want a pre print of the work I talked about yesterday about Drug Facilitate Sexual Assault (DFSA).

Thank You.