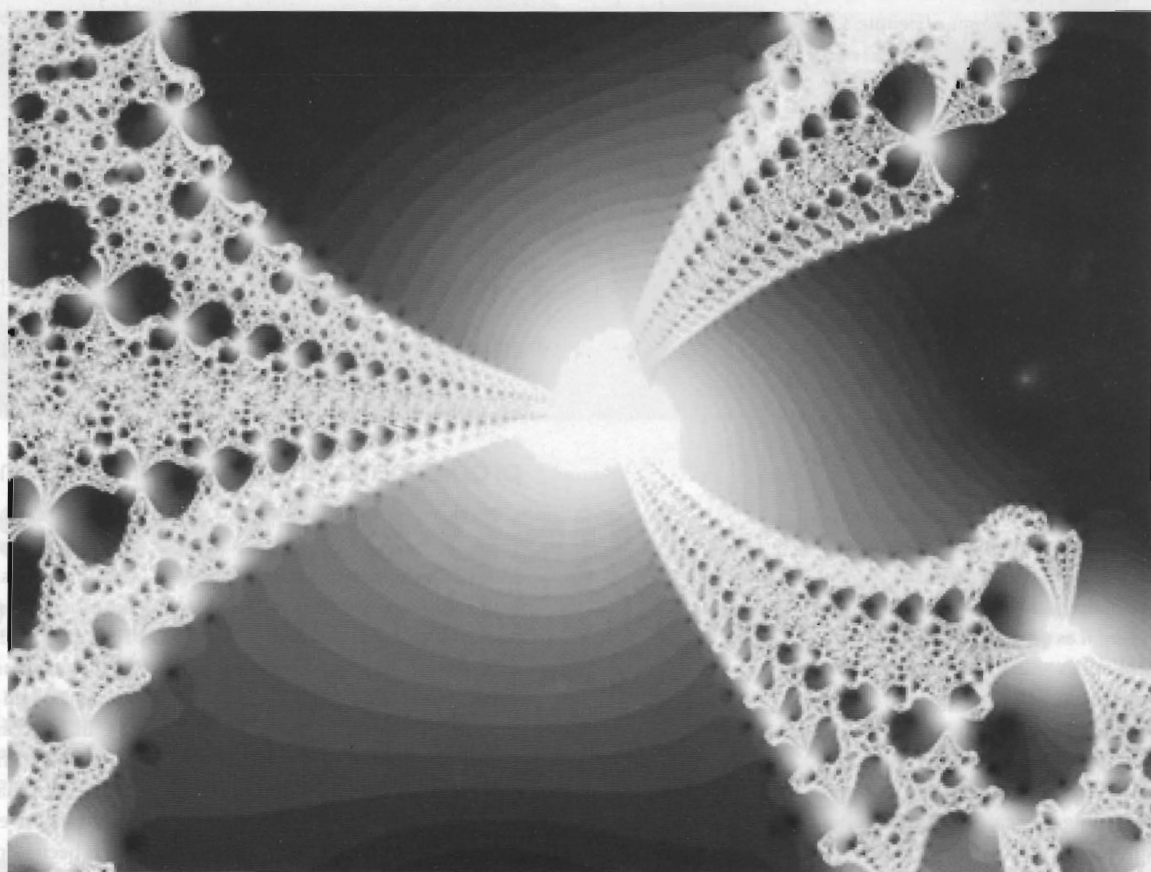


Dr Karl L.R. Jansen

Anaesthetic addiction

Ketamine part 2: addictive psychedelic



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The previous issue of *Druglink* (2000, 15(1), p.8-11) explained why people take ketamine – a medical anaesthetic which is a psychedelic, is sometimes used as a 'dance drug' and to 'explore the mind'. Here the focus shifts to ketamine addiction.

Drugs thought of as psychedelic, such as LSD, are often too exhausting and potentially unpleasant for frequent use. Addiction to LSD is rare. One of the features of 'special K' is that many repeat users rapidly become

addicted. Unlike LSD, ketamine sometimes produces a pain-free state of 'high indifference'.¹ With repeated use the effects become less psychedelic and increasingly like aspects of several other drugs, all at once. An unusual drug indeed.

Tolerance develops quickly and can be high. The ability to remember the experience is sharply reduced. Many stop at this point but others carry on with compulsive binges. These result in cocaine-like stimulation, opiate-like

calming (Ketamine is a collection of paradoxes), cannabis-like imagery (which also disappears), alcohol-like intoxication, and relief from anxiety, depression, and mental craving.

There is little evidence of physical addiction. For a few days after a binge heavy users describe being twitchy, restless, high or irritable with impaired attention, concentration and recall. But the metabolite norketamine may be responsible, rather than a lack of ketamine.

Rats self-injecting large doses for prolonged periods had epileptic-type brain waves for up to five days after stopping but did not have actual fits.² However, there are differences between rat and human brains where ketamine is concerned.³

Repeated use

Marcia Moore became addicted to ketamine and died as a result, aged 50. Her book *Journeys into the Bright World* describes her increasing use and tolerance.⁴ Her husband Howard Alltounian MD (an anaesthetist in Las Vegas) told me: 'Marcia became addicted to ketamine and committed suicide.'

John Lilly MD is probably the world's best known ketamine user. He was still using the drug at the age of 83. His book *The Scientist* clearly states that one of the effects of ketamine is addiction to the psychological changes it produces.¹

D. M. Turner died in 1997, aged 34, when he slipped below the waterline in a bathtub. There was a bottle of ketamine next to the tub. He was the author of *The Essential Guide to Psychedelics* in which he wrote:

'A major concern regarding safe use of K is its very high potential for psychological addiction. A fairly large percentage of those who try K will consume it non-stop until their supply is exhausted. I've seen this in friends I've known for many years who are regular psychedelic users and have never before had problems controlling their drug consumption... Frequent use of K can lure one as an escape since a blissful and fantastic state of fearless, disembodied consciousness is so easily available...'⁵

There are now many anecdotes about compulsive users.⁶ But few cases appear in the journals.^{7,8,9,10}

Many K users are involved with



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alternative (New Age) spirituality and feel addiction is a 'negative' word. They favour terms like 'the repeated use trap' and 'seduction by K'¹¹ or 'becoming an agent of the molecule.'¹¹ These shift responsibility from the user to the drug itself.

Many 'spiritual journeys' using K resemble addiction at an early stage. The World Health Organisation definition of dependence does not require physical withdrawal symptoms or daily use.¹² Most of the following should be present:

- a strong compulsion to use with difficulties in controlling the onset, termination and levels of use
- tolerance
- use has higher priority than behaviours which once had greater value
- neglect of alternative interests and pleasures
- increasing time and effort spent obtaining, taking, recovering from, talking about and thinking about the drug

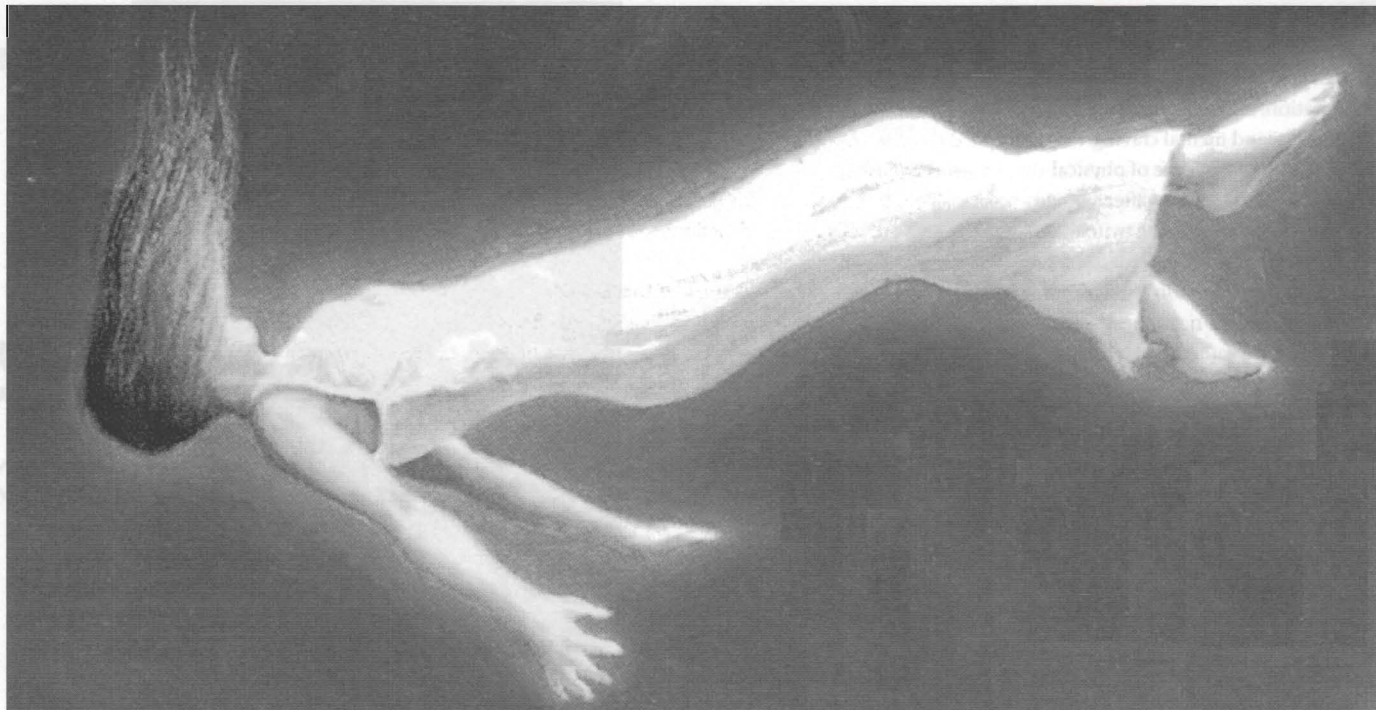
- arguments with partners, family and friends about using
- use persists despite problems with memory, word/name recall and attention span, harm to relationships with other people, work problems and loss of productivity
- a dry period followed by further use will trigger a rapid return to use of large amounts.

Tolerance

Animals repeatedly self-injecting with ketamine show clear evidence of tolerance and dependence.^{13,14,15} Tolerance also appears rapidly in anaesthetic (human) studies.¹⁶ One child needed 250 per cent more after 12 treatments.¹⁷

The heavy user has less memory of the experience on their 'return'. Increasing the dose prolongs the 'black-out' but does not reopen the doors of dissociation.

Years of abstinence do not reverse this tolerance. The psychological effects are more like the last time they



used, rather than the first. This may be a psychological defence, the mind suppressing effects which make the drug attractive. In most cases, people give up ketamine as the effects lose their colour.

There is also physical tolerance, including changes in brain receptors, cells, gene induction cells, and liver metabolism.^{18,19,20} The dopamine system can show lasting change after prolonged use. Ketamine can cause a large rise in dopamine in the pleasure centres of the brain.^{21,22}

Escape and inscape

Few drugs offer such complete escape from reality while allowing the user to remain conscious. Awareness seems to travel out of the body, room, house, city, planet and universe. Paradoxically, this escape may also involve desire for the confinement of the womb.

Some compulsive ketamine use could arise from unresolved birth trauma issues – a drive to repeat the confinement and escape of birth to try to achieve resolution.²³

Some say that addiction comes from a lack of spiritual sustenance. This view holds that people use drugs because they live in a meaningless, mechanical universe alienated from nature.

However, many users are drawn to ketamine through intense spiritual



Several K-related deaths have been women immersed in New Age enterprises

involvement. For example, Marcia Moore was heavily involved with 'spiritual realms and the higher self' years before she took ketamine. She wrote books such as *Astrology: The Divine Science* and *Reincarnation: Key to Immortality*. She believed ketamine put her in touch with her 'higher self'.

Self denied

Some compulsive ketamine use is driven by an unconscious search for suppressed parts of the self.

For example, a child may have an aspect to his psyche which wishes to be an artist. However, his mother wants him to be an anaesthetist. He eventually enters the antiseptic world of operating theatres and no longer communicates with the artist in himself. Yet he feels compelled to transcend himself in some way, so the suppressed part can 'break through'.

Ketamine use is one means by which the denied part may express

itself. He may heed the message and make changes in his life, or ignore the message, become even more distressed and develop an addiction. The resulting problems may force him to change.

Several K-related deaths have been women immersed in New Age enterprises. It's possible that they were searching for what a neo-Jungian might call the hidden 'inner masculine'.

Marcia Moore married Howard Alltounian within weeks of meeting him (he sought her out after seeing her photograph on a book cover). This suggests a high level of projections in the relationship, as they did not 'know' each other at all.

Their perception of meeting in 'past lives' can be interpreted as recognition of an aspect of their own being in the other.

'Ariel' died at about the same age as Marcia Moore. She went to India with her husband and both took a spiritual

path involving no sex within the marriage for three years. Then they decided to divorce and Ariel began her seven-month daily ketamine use. She believed that she had an angel lover called Gabriel. She took a massive ketamine overdose and died, saying that she wanted to join Gabriel.

Her actions suggest that her main relationship was with a projected part of herself rather than a real man.³

Dissatisfaction drive

Another indicator of problem use is a family history of dependence. X may

have inherited receptors in which ketamine produces a desired effect, Y's receptors may produce a deterrent effect. Therefore X will be more likely than Y to take ketamine again.

Those with a strong drive to take drugs may have inherited under-functioning of the pleasure system.

Faces of the beast

Ketamine has several effects.

LA coke: at psychedelic doses heart and breathing rates usually rise. Mental stimulation is often an after-effect following return from the void.²²

In animal models, the same dose is increasingly likely to have a stimulant effect, and is less likely to produce a trance after multiple injections.²⁴ This is due to changes in the dopamine system.²¹

The altered pleasure system may develop a strong drive to stimulate itself with larger spurts of dopamine, requiring larger and more frequent doses of drugs. With cocaine there can be a dramatic 'crash' when using stops, with anxiety, agitation, and depression, followed by sleep.

When a 'K' binge stops the high levels of norketamine can take days to subside so provide a deflating cushion. An elevated mood is common, a cocaine-like swing into depression is rare.

Psychedelic heroin: ketamine has direct and indirect effects on opioid receptors.^{25,26,27} Despite causing rapid tolerance for itself, ketamine can block tolerance and physical addiction to many other drugs, including heroin, alcohol, barbiturates and benzodiazepines.^{28,29,30}

K can also suppress withdrawal symptoms in heroin addicts.³¹

Psychedelic alcohol: like ketamine, alcohol is an NMDA-PCP receptor blocker, explaining ketamine's many alcohol-like effects.³²

Psychedelic cannabis: ketamine can influence cannabis receptors indirectly.³³ Some effects are similar to those of cannabis, including hunger. Most stimulants suppress hunger, but ketamine can stimulate appetite in veteran users.

Further research

Ketamine is unusual in being both a psychedelic and inducing cocaine-like dependence. Unfortunately, few people in the drugs field have much information on ketamine, rather there are many misconceptions about its use and effects. Further research is required to learn more about this complex substance ■

Dr Karl Jansen is interested in hearing from all persons with a story to tell about the use, users and consequences of ketamine, from any perspective.

These should be sent to: K@BTInternet.com, or Department of Liaison Psychiatry, St Thomas' Hospital, Lambeth Palace Road, London SE1

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