Update on Club Drugs and Methamphetamine

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STARS
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MDMA

- Methylenedioxyamphetamine
- X
- XTC
- Hug Drug
- Love Drug
- Adam
Ecstasy facts

• Patented in the early 1900’s
• Classified as an illegal drug in 1985
• Produced in Holland and Belgium for less than $1 a tablet
• Domestic traffickers sell tablets for $20 to $40 each
• Customs seized 10 times more MDMA tablets in 1999 than in 1998.
Who uses ecstasy?

• In 1998, 3.4 million Americans had used ecstasy at least once. (1998 SAMHSA Household Survey)

• Ecstasy use is most widespread among white, upper-middle-class youth. (2000 Monitoring the Future)

• African-American students are much less likely than white or Hispanic students to use ecstasy. (2000 Monitoring the Future)

• MDMA use has jumped, especially among younger students. (2000 Monitoring the Future)

• This year’s use appears to have stabilized (2001 Monitoring the Future)
SIX FEET UNDER
Defining Ecstasy
A derivative of amphetamine

 MDMA, XTC, E, essence, Adam
MDMA

- Causes a feeling of closeness and bonding to people
- Popularly known as the “Love” drug
- “I wanted to call it empathy, but who would know what that means”
- Usually taken with others in a social setting
- Effects include stimulation, increased energy, heightened awareness
- Side effects include muscle spasms, hyperthermia, and anorexia
- Interference with sexual response cycle
MDMA

- Pharmacologically is a “dirty drug”
- Most actions may be tied to Serotonin
- It is an indirect Serotonergic agonist
- Repeated doses in the same time frame are not as effective
What comes after the “high”? 

- Hungover feeling and depression—“e-tarded”
- Moodiness, anxiety, and paranoia
- Irritability
- Loss of appetite
- Insomnia
- Chills or sweating
- General tiredness
Ecstasy’s Side Effects

- Increases in heart rate and blood pressure
- Nausea
- Loss of appetite
- Jaw tightness
- Compulsive chewing and teeth clenching
- Anxiety, panic, and depression
- Health risks increase if ecstasy is combined with another drug (PMA)
MDMA Intoxication

- Immediate concerns are for overheating, which in extreme cases may cause death.
- This phenomena is associated with dehydration and may be compared to both the Serotonin syndrome and Neuroleptic malignant syndrome.
- Treatment for this should involve hydration, cooling and agents used NMS.
- Mixing with PMA can produce a fatal overdose.
Ecstasy pills often contain other dangerous substances.
Long Term Dangers of MDMA

- It does appear to cause permanent alterations in serotonin axons
- This may have long term effects on memory, cognition, and mood
- “Freshmen love it, Sophomores like it, Seniors are afraid of it
- MDMA is a true “gateway” drug
MDMA Studies in Primates
Serotonin Present in Cerebral Cortex Neurons

Normal  2 weeks after Ecstasy  7 years after Ecstasy
Effect of MDMA Administration on rCBF

Subject (age 21 yr)  Baseline  2 weeks post-MDMA
Human Studies of Chronic Users

Normal  Former Ecstasy User
Ketamine

- Originally manufactured as a dissociative anesthetic for adults.
- It is derived from, and related to PCP.
- Still used in pediatrics, and in veterinary practices.
- Causes a dose dependent intoxication characterized by decreased levels of thinking, and a “zombie like” affect.
- Is classically dependency inducing.
Ketamine Effects

- Dose dependent dissociative affects
- Paucity of thinking
- “K Hole”
- Catatonia
GHB

- Is a naturally occurring substance, probably a neurotransmitter
- Is available as a clear liquid
- Up until very recently its production and distribution were legal
- Causes a combination of stimulation and GABA-ergic effects
- Is one of two agents known as the “date rape drug”
Management of Acute GHB Intoxication/Overdose

- Largely physiologically supportive
- Vigilance, with a “wait and see attitude is warranted.”
- Intubations and physiological support may be required in an overdose
- Jerking muscular movements are a result of GHB, not of seizures
Immediate Dangers From GHB

- GHB has an incredibly small therapeutic index
- Difficult for enforcement officials to detect as it may be smuggled in vessels like Visine containers
- Overdose may result in decreased respiration and death
Treatment of GHB Dependence/Withdrawal

- GABA agents are usually effective
- There is a paucity of well controlled studies
- Most anecdotal accounts indicate that regimens and protocols for alcohol withdrawal are likely to be effective for the treatment of GHB dependence
Conclusions

This is a scene from the movie “half baked.”
Treatment Approaches

- Psychosocial
- Medical and Physiological Approaches
- In almost all cases, these must be combined
- An eclectic, flexible and thoughtful approach is almost always best.
The treatment should be done with a thoughtful team effort
The treatment should be done by a team