Cocaine Abuse

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The last three decades have been described as the period of 'worst' drug abuse. More and more people from all socio-economic strata and age groups have tried the dependence-producing drugs, the most dreaded of which is the opiate group of drugs (especially 'heroin' or popularly known as 'smack', 'smag' or 'brown sugar'). The opiate group of drugs produce the severest kind of psychological and physical dependence.

'Dependence' is a physical and/or psychic state resulting due to chronic or periodic intake of a drug, the absence of which or the intake of an 'antagonist' results in marked withdrawal symptoms. The opiates (e.g. morphine, pethidine, heroin, pentazocine etc.) are believed to produce the worst kind of physical and psychological dependence. So one of the strong motivating factors to seek treatment for opiate dependence is the 'severe withdrawal syndrome' (e.g. muscle cramps, sleeplessness, restlessness, running nose and eyes, sweating, diarrhoea etc.). This motivating factor is uncommon in the case of cocaine, a drug which is becoming popular.

Cocaine abuse has increased markedly over the last 10 years and its smuggling into India is on the increase. In the USA, about 22 million people had tried cocaine by 1985. Its use is popular in all age groups, races and socio-economic groups.

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History

For at least 2,000 years, the South American Indians have been chewing Cocoa leaves. In the 1850s in Europe, Sigmund Freud, initially believing the drug to be harmless, prescribed it for neurasthenia, headaches, abdominal illness, morphine addiction and a number of other illnesses. By the early 20th century, cocaine's deleterious physical and psychic effects were recognized and its distribution and sale curtailed by the Harrison Narcotic Act of 1914. The use of cocaine was limited - it being more a recreational luxury of the wealthy and avant garde - while the use of amphetamines in the 1930s proliferated among lower socio-economic groups. The resurgence of cocaine use in the 1970s may be attributed to a number of factors:

- A more permissive attitude of the society toward drug taking, resulting from the drastic social change of the 1960s.
- Increased restrictions on the prescription and availability of amphetamines.
- News and entertainment media linking cocaine with wealth, celebrity, social prominence and glamour (recently, one football player 'Maradona' was reported to possess it).
- The widely held belief, even among the medical profession, that if used no more than two or three times a week, cocaine creates no serious problems.

Siegel, an authority on the subject, has described five stages of escalating cocaine use — experimental, social-recreational, circumstantial-situational, intensified and compulsive. The transition from recreational to compulsive cocaine use depend upon physiological characteristics of the user, drug availability and more potent routes of administration, such as smoking or injecting the drug.

Properties of Cocaine

Cocaine is taken by the following routes: intravenous, intranasal snorting, chewing cocoa leaves or smoking. The route of administration determines the speed and intensity of the onset of effect. The more rapid the onset of effect, the greater the 'rush' for its use. The peak effect (half life) of cocaine is about one hour depending on the route of taking. Cocaine alters the brain chemicals (increase in dopamine, and the sensitivity of their receptors). Cocaine also causes tolerance (more and more drug is required to feel the same effects).

Symptoms

(a) Acute effects: These include euphoria, increase in energy, a sense of well-being, mental acuity, alertness, sensory awareness, sexual excitement and decreased need for sleep. There are also palpitations, increase in blood pressure, etc.

(b) Chronic use: Repetitive administration of high doses of cocaine results in dysphoria (sad mood, instability, assultive behaviour, paranoia (excessive suspiciousness), and delirium (confusion, disorientation, frightening delusions and dreams, etc.). There are usually three phases of symptoms which emerge follow-

ing the rapid and repetitive use of cocaine.

Crash phase: It usually lasts from 9 to 24 hours (maximum 4 days) and is characterized by agitation, anorexia, depression and continued cocaine craving for 1 to 3 hours.

Middle phase: It is characterised by fatigue, depression and disinterest may set in but without craving. Users often resort to alcohol, opiates and tranquilizers to induce sleep.

Last phase: There is exhausion, excessive sleep with hyperphagia (excessive consumption of food) during intermittent periods of wakefulness.
(c) Withdrawal symptoms: These symptoms may last from 1 to 10 weeks. Sleep is soon normalized, mood becomes normal and craving or anxiety is minimum.

The individual may then become anhedonic, anergic and anxious while experiencing spontaneous craving especially in response to such conditioned cues as drug use paraphernalia or encountering a dealer. The patient may feel the withdrawal phase without using to enter the extinction phase. The user's ability to experience pleasure returns during this period but craving and risk of relapse may continue indefinitely.

Medical Complications

These complications may be due to cocaine toxicity as well as adverse effects of the route of administration. The complications include the following:
(a) Affecting heart: hypertension, acute myocardial infarction (heart attack), arrythmias (irregular rate), rupture of the ascending aorta, angina etc.
(b) Brain strokes, fits, fungal infections, psychosis (insanity), acute anxiety, paranoia (suspiciousness).
(c) Pregnancy: Congenital malformation of foetus, increased death rate and behavioural problems, spontaneous abortion, dislodgement of placenta.
(d) Gut: Ischaemia or gangrene in bowel.
(e) Lungs: Bronchitis, pneumotherox, swollen lungs, decreased diffusion capacity and respiratory arrest.
(f) Others: Anosmia (Loss of sense of smell) while taken via nasal route, hyperpyrexia (high fever), sexual dysfunction, hepatitis, AIDS, abscess etc.

Apart from the above complications it can lead to depression, personality disorders, adjustment problems, low ambition, etc.

Laboratory Detection of Cocaine Abuse

Cocaine is metabolized to two inactive compounds - benzolyecgonine (BE) and ecgonine methyl ester (EME). About 10 per cent of the drug is excreted in the urine unchanged. Urine testing is best accomplished by measuring the metaboiised usually BE with chromatography and immunoassay. The addicts may submit 'clean' urines obtained from a friend or even purchased to escape detection.

Treatment

Treatment of the cocaine abuser requires flexible integration, behavioural (contingency contracting) and supportive therapy. The patient is encouraged to make lifestyle changes including avoiding drug-using friends and situations, terminating relationship with dealers, discarding drug supplies and paraphernalia. Education about relapse, prevention strategies and relaxation training can also be helpful.

There are self-help groups which promote abstinence through support and confrontation.

The underlying stress factors, depression and interpersonal problems are treated.

The drugs used for treating individuals using cocaine are anti-depressants (to treat underlying depression), lithium, bromocriptine, CNS stimulants (methylphenidats, magnesium pemoline), antipsychotics (haloperidol), buspirone (an antianxiety drug), L-tryptophan and L-tyrosine (antidepressant drugs) etc.

Hospitalization

The following cases of cocaine abusers need hospitalization:

- Uncontrolled intravenous cocaine use
- Polydrug abuse
- Serious medical or psychiatric problems (infections, psychosis, suicidal tendency, heart problems etc.)
- Severe psycho-social impairment, poor family or social supports
- Refusal to participate in outpatient treatment
- Repeated failure in outpatient treatment
- Ready access to large amounts of cocaine.

The prevalence of cocaine abuse has increase over the past decade. Strict legal action, e.g. preventing possession or selling or use (as under India Narcotic Drugs and Psychotropic Substances Act, 1985) and psycho-social measures (e.g. identifying the individuals prone to cocaine abuse, avoiding psycho-social factors leading to stress and early rehabilitation of addicts) can avoid the future 'epidemics'.

Rehabilitation which is still the most neglected part of treatment in India and strict enforcement of legal measures can go a long way in keeping check on wide spread abuse of cocaine and administrative will can help to overcome the hurdles. However they point to be remembered is that cocaine abuser, unlike opiate abuser, will not seek treatment due to severe physical withdrawal symptoms because cocaine shows no physical dependence.