



COCAINE: DIAGNOSIS — TREATMENT CONSIDERATIONS

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Cocaine acts as a powerful CNS stimulant which results in excitation and feelings of euphoria. The effect of cocaine is very similar to adrenaline which continuously transmits signals along sympathetic nerve pathways. When cocaine molecules are present in the synaptic cleft, they block the receptors of the neurotransmitters, dopamine and norepinephrine, resulting in continuous stimulation of receptors of adjoining nerve cells — Dopaminergic neurons are found in abundance in ventral tegmentum and nucleus accumbus — both are regarded as pleasure centers. This sensation is powerfully addictive both psychologically and physically. With excessive use of alcohol or marijuana an individual may feel drowsy and pass out. But, this does not happen with cocaine. When it is available, the person can use it for hours and days until he is exhausted. Cocaine addicts often change the route of administration from intranasal to intravenous; or free base which produces a more rapid increase in blood and brain level of cocaine resulting in intensive euphoria, lasting for several minutes. The euphoric state slowly diminishes and the person becomes restless. Urges appear which can be relieved by another cocaine administration. The pleasant effect of cocaine and unpleasant urges for cocaine are most powerful and compelling feelings, which sometimes result in dangerous and criminal behavior.

While cocaine is the most addictive drug of all, crack, a rare new phenomenon, is by far the most addictive form. Crack addiction shows few immediate physical signs of dependency, but users feel an overpowering desire for more. Bouts of depression and irritability can lead to deep depression and paranoia.

Crack is almost pure cocaine and is made by preparing aqueous solution of cocaine and adding ammonia to alkalinize the solution and precipitate alkaloid cocaine. Crack melts at 98 degrees and vaporizes at high temperature making it suitable for smoking. This is an extremely powerful substance reaching CNS within 8 seconds causing an intense euphoric experience often followed,

within a few minutes, by dysphoric “crash” leading to repeated use. Treatment of crack addiction is difficult.

A wide variety of physical, social and psychological symptoms are reported by chronic cocaine users:

- *The Initial stage* is marked by euphoria, increased cognition, motor function, anorexia, insomnia and increased sexual desire.
- *The Second stage (regular)* is characterized by long periods of sadness, irritability, aggressiveness and poor social judgement.
- *The Third stage (chronic use)* is marked by paranoia, hallucinations, delusions, impulsiveness and violent behavior.

Physiological symptoms of rapid heart beat, high blood pressure, increased sweating, rapid breathing, fever and pinpoint pupils are common in all stages.

Treatment

Treatment of cocaine abusers requires a prescribed period of inpatient hospitalization. This is necessary as we are getting more severely addicted patients at a younger age who also manifest behavior disturbances requiring more structured environment. The hospitalization is also necessary to help the individual to cope with extreme urges and withdrawal behavior. During the period of hospitalization, the patient can be carefully evaluated for any contributing psychiatric problem, e.g., agitated depression, paranoid schizophrenia, conduct disorders and attention deficit disorders.

During acute withdrawal phase valium 5mg to 10mg t.i.d. is helpful. Dose can be increased or can be given I.V., depending on severity of symptoms. Valium can be given up to 20 mg t.i.d. to relieve acute panic attack, spasm or seizures. Phenthiazine and Haldol should be avoided unless patient shows gross paranoid psychotic symptomatology.

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Bromocriptine 0.625 mg t.i.d. has been shown clinically to relieve "craving" withdrawal symptomatology, presumably by elevation of central dopamine depletion. Continued maintaining dose of bromocriptine is useful in preventing relapse. Other dopamine antagonists such as levodopa, L. Tyrosine may have a role in long term management of these patients.

Some recent reports suggest that antidepressant medication imipramine and norpramine decrease cocaine craving and secondary depression caused by cocaine withdrawal. Some patients show depression with vegetative symptoms of insomnia, poor appetite and they respond satisfactorily to antidepressant medication.

The use of pharmacological agents in conjunction with supportive psychotherapy and rehabilitation program offer most satisfactory results. Addiction to cocaine can best be treated when a motivated user becomes a part of a well-structured program. While receiving psychotherapy — individual, group and family — user must join self-help groups, e.g., Cocaine Anonymous or Narcotics Anonymous. He/she must also stop all mood altering drugs including alcohol and prescription drugs. Giving up an "image" to want to be the center of attention, the need to feel excited, and giving up all user friends are all necessary to maintain sobriety. The individual must structure his leisure-time activity to keep himself busy, and must find new sources of excitement to replace cocaine use. Final recovery is achieved when the individual develops a sincere, loving relationship, becomes involved in productive work, enjoys a harmonious family situation and experiences psychological and physical well being.

Reference:

"Crack" *The Medical Letter*, July 18, 1986.

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