Taking Care of Substance Abusers, An Internist's Viewpoint

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Currently, besides nicotine, alcohol, the illicit substances used include sedatives, hypnotics, solvents, heroin, amphetamines, and hallucinogens (MDMA, ketamine, marijuana, and LSD). The acute effects of hallucinogens are less toxic than narcotics or stimulants. Therefore, cases of hallucinogen seemed seldom found clinically. However, they did prevail worldwide in these few years, especially for the adolescents.

Substance abuse is involved in many instances of intentional and unintentional injury, which causes a variety of diseases. Primary care physicians encounter substance abusers often but may not always recognize the direct drug effects, withdrawals, other local or systemic complications, and even its social consequences, including accidents, homicide, suicide, etc. Moreover, psychological consequences of drug abuse, such as aggressive behavior, suicidal ideation, or hallucinosis, or of the comorbid psychiatric syndromes often found in drug addicts. Patients with these presentations should be carefully related to drug use. Frequently, it is urgent and difficult to tell what conditions signal the presence of abuse, and which complications need to be ruled out in known addicts.

Acute drug poisonings are frequently seen in abusers. There are three pharmacological approaches to the treatment of acute poisonings in drug abusers, enhancing drug elimination, antidotes, and supportive treatments. However, supportive treatments remain the most important among all the these approaches. Enhancement of drug clearance through the kidneys by manipulation of urinary pH is used in overdose of phencyclidine and amphetamines, but is not practical in clinical use, and even dangerous. Hemopurifications are effective only in severe barbiturate poisoning. The functional antagonism of acute drug effects, such as stimulants for sedative-hypnotic poisonings and sedatives for stimulant poisonings, is rarely useful and, in fact, hazardous because of drug interactions and rebound effects when the action of the treatment wears off. Most of current medications that are useful in the treatment of drug intoxication are receptor antagonists. When administered intravenously, flumazenil may reverse benzodiazepine intoxication in minutes. While used in benzodiazepine dependence, flumazenil may induce a withdrawal syndrome. Other adverse effects include provoking anxiety, muscle tension and lowering seizure thresholds. Naloxone is a pure opioid antagonist with a long history of clinical use in reversing opioid induced respiratory depression and a high level of safety. With the exception of the precipitation of narcotic withdrawal, there are rare adverse reactions, such as pulmonary edema, seizures, asystole. Putative mechanism for related adverse reactions is excess catecholamine release, which greatly enhanced by hypercapnea. It is important to correct both of hypercarbia and hypoxia before and during naloxone therapy, especially in patients with cardiac disease, or mixed drug poisoning with sympathomimetics. The most sensitive predictor of opioid overdose and naloxone response is respiratory depression. Lack of response to naloxone is commonly explained by mixed drug poisonings. There is no difference in response rate between IV and IM use. Clinical effects caused by the impurities of street drugs should also be considered, such as stimulants, analgesics, antihistamines, sedative-hypnotics, or insolubles.

Managements of acute withdrawal syndromes by the first aid physician have become an important issue. There are two general pharmacological approaches to the treatment of withdrawals: administration of a cross-tolerant drug from the same pharmacological class, or administration of drugs to reduce the neurophysiologic process considered to mediate withdrawals. The first approach is the commonly used clinical practice in the treatment of sedative-hypnotic and opiate withdrawal. Usually a long-acting medication is used so that the long duration of action provides a built-in, self-tapering effect. However, drug like methadone is not available in some countries. Thus, the second approach is an alternative, though much complicated.