Phencyclidine [PCP]:
Another Illicit Psychedelic Drug

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Numerous drugs have been diverted from legitimate channels of use for illicit purposes. Within the last 10 years, the majority of drugs that have been so diverted have been of a potentially psychedelic or hallucinogenic nature. Lysergic Acid Diethylamide (L.S.D.) has almost disappeared from the research lab, and now abounds in illicit drug traffic. Dimethoxymethyl-amphetamine (D.O.M., known on the street as “S.T.P.”) was originally developed in a research laboratory, and is now commonly found in street drugs. Belladonna, scopolamine, and other atropine-like medications are becoming frequent adulterants in psychedelic drugs. Phencyclidine (phencyclohexyl piperidine HCP or P.C.P.), whose accepted use is for anesthesia in veterinary practice, has now become a drug that is frequently found in illicit psychedelic preparations. PCP’s capacity to produce misperceptions of reality, feelings of dissociation, and a generalized change in the way the user experiences his environment qualify it to serve as a substitute for LSD, mescaline, psilocybin, and other psychedelics in the illicit drug market.

STREET USE

There was a time, in the early days of the popularity of psychedelic drugs 5-10 years ago, when one could be reasonably assured of getting the drug one paid for—i.e., LSD, mescaline, and other illicit drugs were available in relatively pure forms and without adulterants. That situation no longer exists. A wide variety of chemicals are being illicitly sold under various names which seldom conform with their actual contents. This has been substantiated by a number of studies which have analyzed samples of street drugs. LSD is found to be one of the purest illicit drugs available, but a large percentage of street LSD samples contain adulterants such as amphetamines, belladonna alkaloids, and other drugs. Pills sold as mescaline, psilocybin, and tetrahydrocannabinol (THC) very seldom contain even trace amounts of these drugs. Instead, they have been found to contain LSD, STP, and/or PCP in most cases. Information about LSD has been offered in literally thousands of studies, and STP has been described by various authors. Relatively little information on phencyclidine has been offered in recent years, however, because its use has been restricted to veterinary practice since the early 1960’s. The drug was originally available on an experimental basis for human use through Parke, Davis & Co. under the brand name of Sernyl, but in 1967 they discontinued distribution. At present, the drug is distributed by Bio-Ceutic Laboratories under the name Sernylan, available only for veterinary use in primates.

Much of the information regarding the street history of PCP has been gained through professionally privileged communications with manufacturers and dealers of illicit drugs, and therefore cannot be referenced. However, the following information has been substantiated to the authors’ satisfaction.

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The original source of illicit phencyclidine was diversion of the drug from legitimate channels. However, over the past several years, the primary source of the drug has moved to the illicit laboratory. While phencyclidine is presently available for legitimate use only in a liquid form for intramuscular injection, PCP on the street is generally found in tablet or powder form. The production of PCP in "underground" laboratories carries a special risk in that misapplication apparently can produce a very toxic substance which may elicit abdominal cramps, emesis (frequently containing blood), coma, and even death.

PCP initially appeared in the street drug scene in 1966 in very limited quantities in New York City and San Francisco. The first major appearance of PCP nationally was in the summer of 1967. At this time, the drug was sold as either the "PeaCe Pill," or, more frequently, as "THC" (tetrahydrocannabinol, the active ingredient in marijuana). Sale of PCP as THC continued in 1968, and the drug could also be found in New York under the pseudonym of "Hog." Phencyclidine was also sold in some places as PCP, but this ended when users became sophisticated with regard to some of its unpleasant effects. By 1969, PCP was found under a variety of guises, including those above. It also began to appear under the name of "angel dust," which was PCP sprinkled on parsley or low-grade marijuana for smoking. This caused confusion in law-enforcement agencies, which had obtained "strange looking pot" from arrests, only to have their crime labs return a report that "no marijuana or THC was found."

Phencyclidine, today, is widely used as a primary ingredient in psychedelic preparations. Five different varieties of "mescaline" sold in Milwaukee in October, 1970, were analyzed by the authors. One contained 110 micrograms of LSD, the other four contained between two and six milligrams of phencyclidine. Communications from others outside the Midwest have confirmed that this is not merely a local phenomenon. It would appear that physicians, faced with illicit drug intoxication, should remain skeptical about the alleged composition of the drugs ingested by their patients.

**Clinical History**

Phencyclidine was developed in the late 1950's as an intravenous anesthetic. While it was found to be a fairly effective anesthetic, it had side effects which led to its being discontinued as a drug for human use. These side effects included agitated, bizarre behavior and disturbances of speech, vision, proprioception, and coordination. One study found that, during surgery, there was a lack of surgical relaxation, increased salivation which responded poorly to atropine administration, and occasional convulsive movements. There was a significant incidence of post-operative pain and near-manic states of excitement lasting between three and 18 hours. It was also found to exacerbate many forms of psychopathology in individuals given the drug. The above-mentioned effects have precluded the use of this drug in humans for anesthetic purposes. However, additional uses in other areas, e.g., psychiatry, have been suggested, and will be considered below.

**Physiological Effects.**—The CNS effects of PCP differ markedly with dose. At low doses, the most prominent effect is similar to that of alcohol intoxication, with generalized numbness. With increased doses, analgesia and then anesthesia are noted. Large doses can produce convulsions.

The majority of peripheral signs of phencyclidine are, apparently, primarily related to centrally mediated sympathomimetic actions. Flushing, diaphoresis, and mild hypotonia are common, but pupil size is unaffected. The cardiovascular system responds by increased blood pressure and frequently by tachycardia. Respiratory changes appear to be minimal in terms of depth or rate. Acute neurological effects include analgesia, lateral and vertical nystagmus, ataxia, diplopia, and vertigo (which may induce nausea and vomiting), but these disappear within a few days at most. Virtually all sensory modalities are affected by the drug in some way.

**Psychological Effects.**—Information on two types of psychological effects is available—the subjective and the objective. Bakker and Amini give the most complete description of the former:

The main effect on the psychological functioning of the subject was a progressive disintegration. This is meant quite literally in that the subject apparently became less and less able to combine and integrate all the information available to him. As a consequence, a progressive narrowing of his field of awareness was observed. Past and future disappeared, and the subject lived only in the present. As the level of the intoxication rose the subject became unable to correctly integrate information from his own body with that from the environment.

Feelings that the extremities did not belong to the body, did not belong to the subject himself, were typical. Although the subject knew intellectually it was he who was speaking, his voice seemed to come from a distance—as if someone were talking to him.

The changes in perception came somewhat later than the disturbances in body image. These perceptual disturbances manifested themselves quite
suddenly... The subject became unable to concentrate... It was as if he had become a victim of all infalling stimuli but could not screen out the irrelevancies.

In this study, as the intravenous dosage was increased, the subjects eventually became stuporous and stopped giving spontaneous descriptions of their experiences. Subjects continued to give short answers to questions, but apathetically. The feelings of apathy continued to be felt by most subjects for several hours after the experiment had ended. With the apathy, these subjects "experienced a feeling of isolation. They felt the people around them could not be truly contacted and saw them as if through the wrong end of a telescope." Feelings of apathy and isolation as a consequence of PCP use have been frequently noted, and may be the most important effects to consider when evaluating the potential psychological harm from the illicit usage of the drug. Individuals who are already most apathetic, socially introverted, and emotionally isolated are those most likely to use and abuse drugs, particularly those drugs about which little is known but which may offer a new form of psychological escape.

When the drug itself apparently serves to exacerbate these feelings of anomie, it would seem likely that the possibility of psychological harm due to the drug would be relatively great. While acute psychotic reactions due to the use of PCP on the street have not, per se, been reported, it is quite possible that some such reactions attributed to other psychedelic drugs may have been actually due to PCP sold under another name, e.g., "THC" or "mescaline."

Because apathy and feelings of isolation are also characteristic of schizophrenia, some investigators have attempted to compare the performance of subjects under the effects of phencyclidine with that of schizophrenics. Domino reports on several studies which found that the performance of subjects on PCP was similar to that of subjects diagnosed schizophrenic, but significantly different from subjects on such drugs as LSD or amobarbital sodium, or from non-schizophrenic subjects who did not receive drugs.

Ban et al. gave PCP to 55 psychiatric patients, 43 of whom were diagnosed schizophrenic. They found that the psychological effects of the drug are directly related to dosage, and that some of the symptoms produced by the drug are phenotypic of schizophrenia. More importantly, they found that, in most subjects, the drug served to exacerbate whatever psychopathology was present, and brought forth symptoms which the subjects had previously been able to control. These symptoms included those of acute psychoses in two subjects previously diagnosed as paranoid schizophrenics. The same is likely true of any other drug which produces an overwhelming stress reaction—as LSD, alcohol, and other drugs may do—and which may, therefore, precipitate anxiety or acute psychotic reactions.

A note should be made about the use of the term "psychotomimetic," which is commonly used to describe the pattern of psychological responses to certain drugs, e.g., LSD, mescaline, or PCP. The term is a misnomer when taken literally, since the drug does not produce an "imitation psychosis" but, rather, produces certain psychological responses similar in appearance (phenotype) to those reported by schizophrenics and other psychotics. The presence of true psychotic symptoms, under the influence of a drug or spontaneously produced, implies a life history involving inability to deal with oneself as part of one's social and physical environments. Even the term "hallucinogenic" is imprecise, since the visual and other phenomena experienced by the drug user are misinterpretations of sensory input (illusions) rather than things perceived by the person which have no external referent (hallucinations). These are among the reasons why the term "pschedelic" became popular as a description for the drugs which produce these phenomena, and why it is perhaps the most accurate term to use.

When PCP is considered in this light, taking into consideration the psychological effects it produces, it properly belongs categorized with the other psychedelics drugs—and this is one reason why it has become a common ingredient in street drugs. Since it may produce distortions of reality more profound than those of most other psychedelic drugs, it may also be considered to have a greater likelihood of being psychotogenic than most other psychedelics.

One study suggests that there may be a use for phencyclidine in psychiatry. Of eight neurotic patients given phencyclidine orally during a series of interviews, six were able to talk more freely, five experienced an abreaction, two showed a severe disturbance of thought, two experienced blocking of thought, and five recalled memories from early in their lives. The severe disturbances of thought that some subjects experienced suggests that this method ought to be used only under strict supervision. However, one patient's obsessional ruminations were so well controlled by PCP that the patient was discharged and maintained on 2½ mg. of PCP two or three times daily. While the dangers of PCP are well documented, more information about its possible use in facilitating abreaction or other psychiatric uses would be valuable for potential use in psychiatric settings.
CLINICAL MANAGEMENT

In any unknown street-drug intoxication, phencyclidine should be considered. The major symptoms of PCP intoxication include flushing, diaphoresis, mild hypotonia, transient hypertension, tachycardia, ataxia, and lateral and vertical nystagmus without mydriasis. Clinical signs frequently encountered include analgesia, anesthesia, diplopia, nausea, and bizarre "hallucinations." It should be kept in mind, however, that there is a good deal of variation in individual responses, as well as a strong possibility that other drugs may be mimicking or obscuring the signs and symptoms of PCP. Phencyclidine intoxication can frequently be distinguished from other psychedelic intoxications by the presence of “hallucinations” without mydriasis, coupled with a generalized anesthesia. The possibility of hysteria should be considered, with a careful physical examination conducted, particularly concerning flushing and nystagmus, to rule out this possibility.

In the majority of individuals suffering from phencyclidine intoxication, vigorous medical intervention would seem uncalled for. Most of the techniques for handling other psychedelic drug ingestions will be adequate. The more important of these are: a warm and non-threatening environment, one-to-one contact with an empathetic individual who would be capable of determining deterioration of the individual’s physical state, protection from harming oneself, and the availability of hospital facilities.

If it is felt that medicinal intervention is indicated, intramuscular or oral administration of a mild sedative would seem most appropriate. Intramuscular administration of 10 mg. of diazepam has been used for the management of a wide variety of psychedelic intoxications, some of which were presumably due to PCP, with few complications. Although the phenothiazines (especially chlorpromazine) have frequently been employed successfully in the management of psychedelic drug reactions, we would not recommend their use in the treatment of unknown drug intoxications because of the possible presence of belladonna alkaloids in street drugs. Phenothiazines in combination with belladonna alkaloids are capable of producing an atropine crisis.

Succinate has been reported to be an effective antidote to both the central and peripheral effects of PCP. Individuals who were grossly intoxicated by phencyclidine reported mental clearing, and there was a rapid disappearance of physical signs, after oral administration of succinate. A later study did not confirm these findings, but used considerably different techniques. The present authors feel that there has been too little research done in this area to recommend the use of succinate at this time.

Medical management of the comatose or convulsant patient presents a considerably more difficult problem. Respiratory assistance would most likely be unnecessary, because of phencyclidine’s lack of effect in this area. Generally supportive care with the judicious use of sedatives in cases involving convulsions would seem to be appropriate. Perhaps the cautious administration of succinate would be efficacious, under strict supervision.

COMMENT

With the increased incidence of phencyclidine in the illicit drug market, information about PCP is important to those who have to deal with the acute and chronic drug reactions. This paper has attempted to set forth a picture of the drug-person interaction and the various ways PCP has been, and is, used. It is hoped that the reader, whether professional or non-professional, is fully sensitized to the problems of dealing with acute drug reactions, and especially those reactions involving PCP.

REFERENCES


