

In six cases the effects were more severe and included collapse, multiple extrasystoles, heart-block, and pain in the chest radiating into the left arm.

From 1939 to 1962, at least 54 cases of acute physical amphetamine poisoning were published in the American and British literature, and many reports came in from nations like Japan and Sweden, where severe intravenous amphetamine epidemics broke out earlier than in this country.

In addition, in 1962, B.H. Ong noted that in 1958 alone 38 separate cases of acute amphetamine poisoning in children under 5 years of age had been reported to the Boston Poison Information Center.

Similarly, 52 different cases of very young children suffering from acute physical reactions to amphetamine were admitted to one Toronto hospital from 1960 to 1963.

P. H. Connell, searching for instances of amphetamine psychosis up to 1956, noted that all but 10 of 92 cases also suffered moderate to severe physical signs and symptoms, including flushing, pallor, cyanosis, fever, tachycardia, serious cardiac problems, markedly elevated blood pressure, hemorrhage or other "vascular accidents," nausea, vomiting, difficulty in breathing, tremor, ataxia, or loss of sensory abilities, twitchings, tetany, convulsions, loss of consciousness, and coma.

Mr. GORDON. How do the children get the drugs?

Dr. GRINSPOON. The children get the drugs accidentally; taking them out of medicine cabinets is the most common way.

Mr. GORDON. But they are not prescribed for children?

Dr. GRINSPOON. No, except for hyperkinetic children. Mostly they are accidentally ingested.

Since high-dose and/or intravenous abuse of amphetamines has become increasingly more popular since the early 1960's, a whole new spectrum of serious physiological reactions have been reported.

By 1966 cases of severe serum hepatitis resulting from intravenous abuse of amphetamines were being regarded as fairly common occurrences: One physician reported that at least 11 cases had resulted from a 2-day "meth party" in Salt Lake City that year. At about this same time several independent Japanese, British, and American investigators began to speculate that intravenous abuse of speed could cause permanent or long-term brain damage.

In 1970, the first clinical evidence of this was reported by a team of California researchers headed by B. P. Citron, who had observed 14 young drug abusers suffering from "necrotizing angiitis," a disease characterized by widespread small blood vessel deterioration, including rupture of the vessels supplying the brain.

Although the researchers could not conclusively prove that methamphetamine was the only cause they did note that all but two of the 14 admitted to intravenous abuse of methamphetamine, that one of the 14 had used speed exclusively, and that all four of the patients who died had been heavy speed abusers.

Mr. GORDON. If I may interrupt, the FDA has prohibited parenteral methamphetamine to be marketed for obesity.

Now, as I understand it, methamphetamine is soluble in water, is that correct?

Mr. GRINSPOON. That is correct.