INHALANT ABUSE BY ADOLESCENTS: A NEW CHALLENGE FOR INDIAN PHYSICIANS

DEBASISH BASU, OM PRAKASH JHIRWAL, JASPREET SINGH, SURESH KUMAR, SURENDRRA K. MATTOO

ABSTRACT

Inhalant abuse has been commonly reported especially in the young during the last decades globally. The reason for the relative paucity of literature from India may be attributed to a lack of knowledge about this growing problem among health professionals. A series of five cases of inhalant abuse is described in order to understand this growing public health concern. Most of the cases started inhalant abuse during adolescence. All patients except one abused typewriter erasing fluid and thinner which contains toluene. All the patients reported using inhalants as addictive substance because of their easy accessibility, cheap price, their faster onset of action and the regular 'high' that it provided. Whereas several features of inhalant dependence were fulfilled, no physical withdrawal signs were observed. The diagnosis of inhalant abuse can be difficult and relies almost entirely on clinical judgment. Treatment is generally supportive.

KEY WORDS: Inhalant dependence; substance-related disorders; Indian studies

Intentional inhalation of volatile solvents for recreational purpose is not a new phenomenon worldwide. Abuse of household and other commercially available products containing volatile organic solvents has been recognized since the early 1900s in Western countries. Products containing aliphatic and aromatic hydrocarbons (including glues, gasoline, paints, adhesives, varnishes, paint removers) and halogenated hydrocarbons (such as dry cleaning agents, spray paints, nail polish removers, typewriter correction fluids, aerosolized foods and propellants) are among common sources of volatile substances that are abused. Experimentation with these agents among younger adolescents is a common practice seen globally in last decades.1,2

Although the first case series of petrol inhalation dependence from India was published more than 25 years ago,3 there have been sporadic case reports4-6 and occasional case series7,8 in recent years that suggest, in addition to other substances, the abuse of inhalant substances, particularly typewriter correction fluids, gasoline and other volatile hydrocarbons might be increasing among adolescents and young adults attending de-addiction clinics in India. There must be many more that do not come to medical attention. In our clinical experience, inhalant users coming to these clinics are predominantly socio-economically deprived young males aged 10-18 years (the mean age of the nine gasoline inhalers reported from Baroda was 13.6 years, and that of other solvent abusers from Chandigarh was 11.4 years).2,4 These products are popular in adolescents in our country because of peer influences, easily availability, legality, and rapid mood-elevating effects. These are usually inexpensive as compared to alternative illegal substances. Inhalant abuse is becoming a significant public health problem in India, more so due to the lack of awareness among the general population and even the health professionals regarding their abuse potential and consequences.

In an attempt to highlight the issues concerned and to raise the awareness of physicians in this regard, we report here five cases related to inhalant abuse, which were seen by us in the recent years.

The study was approved by the departmental research review committee, which also gave ethical clearance.

CASE SERIES

Case history 1

A 10-year-old schoolboy was brought to the child guidance clinic of the department by his parents with problems related to petrol sniffing. Further detailed evaluation revealed that he started to inhale it accidentally by applying his face against the keyhole of the petrol tank of his father’s motorbike. He started sniffing repeatedly everyday. Parents became aware only after the patient burnt his face while pressing it against heated parts of the engine in order to inhale more. The ensuing strict vigilance and punitive measures could not deter him to continue. After sniffing, he looked dull, and remained drowsy for 2 hours. On few occasions of heavy doses of inhalation, he had even become transiently stuporose. Parents reported that during this period, any confrontation would make him quarrelsome, aggressive and sometimes destructive. Temperamentally, he was an active child with intense mood shifts and poor attention span though he was adequately adaptable. The patient did not come for any follow up after the first visit.

Case history 2

A 25-year-old unemployed man reported problems with petrol inhalation starting at the age of 11 years. This had begun as experimentation with what he had considered a harmless substance. By age 12, he had regularly been using inhalants. He had huffed petrol many times each day for about 5-10 seconds, which remained for next 6 months. The patient said, “It blacks out everything”. Sometimes he had lost consciousness, and he believed that the petrol had impaired his memory and made him ‘dumb’. Due to family pressure, he had to stop petrol inhalation. No withdrawal symptoms reported by the patient on stopping. By the age 20, he became dependent over multiple substances ranging from alcohol, cannabis, nicotine, and dextro-propoxyphene to codeine containing cough syrups. On further detailed evaluation, the patient reported that he had begun showing extensive conduct problems, eventually including fighting, truancy and multiple runways. He could not complete his education after 11th standard. The patient was hospitalized and thoroughly investigated; results were within normal limits. However, he
left the ward against medical advice after a week though he was detoxified completely with lorazepam.

Case history 3

An 18-year-old single male belonging to lower socio-economic background admitted in our center for evaluation and recommendations regarding inhalant problems. He had inhaled typewriter-erasing fluid for the first time at the age of 13. However, his rate of use increased over several months, eventually becoming almost daily in doses of 4-6 bottles. He felt craving before sessions of use. Then, using the fluid while alone, he felt alleviation of depressed feelings. “Things would go through my mind. I feel high all the time”, he claimed. He reported using no other drugs at this time. He sometimes fell asleep. Sessions of inhalation might last a few seconds, or up to half an hour. They ended when the craving and euphoria ended. He had often tried to stop or cut down but ended with failure. In the ward stay, patient was managed conservatively. Specific attention focused over psycho-education and active support for continued schooling. However, the patient relapsed within one week after discharge from hospital.

Case history 4

A 24-year-old single male who was earlier a sociable, outgoing individual, was admitted in our center with problems related to multiple drugs. On exploration, the patient revealed that at the age of 19 years he started inhaling typewriter-erasing fluid in the company of friends for enjoyment. Initially he did not like its effect, later after a week he claimed a pleasant feeling with increased confidence. His consumption further increased to 5-6 bottles by 6 months. He continued for next one year until he started consuming cannabis in form of charas (hashish). He reported no withdrawal symptoms on stopping inhalant. Later he shifted to heroin and opium intake for which he was admitted. After routine detoxification, he was put on naltrexone with comprehensive rehabilitation plan. Despite this the patient relapsed after a period of 2 months of abstinence.

Case history 5

A 20 years old, tenth class dropout, from a middle socio-economic status family of rural background presented with multiple drug use including cannabis, alcohol, codeine containing cough syrup for the past 3-4 years and typewriter correction fluid for the last one year. He felt a very powerful intoxicating effect of the fluid with temporary unawaresness of surroundings, visual hallucinations, odd behaviour and paranoid ideas lasting for 2-3 hours. He used to take up to 3-4 bottles of this correction fluid everyday and was deeply preoccupied with the same, with craving, difficulty in controlling himself but no physical withdrawal symptoms. He had frequent altercations, physical fights and legal problems due to his behaviour under the influence of the fluid. He was admitted for inpatient management but left against medical advice after only 3 days.

DISCUSSION

On interpreting above cases, most of the patients were from lower to middle socio-economic background and had decline in scholastic performance. Most of them started inhalant abuse in early adolescence before shifting to other substances. All of the patients except one abused typewriter erasing fluid and thinner which contains tri-chloro-ethane. All the patients except one reported using inhalants as first addictive substance because of their easy accessibility, cheap price, faster onset of action and the regular ‘high’ that it provided.

Inhalants are frequently the first mood-altering drugs used by children and adolescents. Inhalants cause a fleeting sense of well being, but users frequently get psychologically and physically dependent over them. Almost all of the substances of this class are capable of producing dependence, abuse, and intoxication but there remains uncertainty in regard to the existence of tolerance or withdrawal syndromes.

The cardinal feature of inhalant use is repeated use of inhalants in ways that produce a physical hazard or adverse social consequences for the user. Inhalant dependence is characterized by repeated use resulting in some combination of adverse consequences, loss of control of the drug use, and tolerance or withdrawal symptomatology.

A possible withdrawal syndrome of inhalants, beginning 24-48 hours after stoppage of its use, includes sleep disturbances, psychomotor retardation, tremor, irritability, diaphoresis, dry mouth, lacrimation, nausea, and fleeting illusions, lasting from 2 to 5 days.

Acute effects of inhalants include sudden sniffing death syndrome, asphyxia, and traumatic injuries. Chronic inhalant abuse can damage cardiac, renal, hepatic, and neurological systems. Even deaths have been reported from CNS respiratory depression, cardiac arrhythmia, and accidents.

Inhalant intoxication involves clinically significant psychological and physical problems, viz. impaired judgment, asculptative behavior, apathy, belligerence, dizziness, visual disturbances, nyctagmus, in-coordination, slurred speech, unsteady gait and tremor. Higher doses of inhalants may lead to the development of lethargy, muscular exertion, depressed reflexes, stupor, or coma.

Diagnosis of inhalant abuse is difficult and relies almost entirely on a thorough history and a high index of suspicion. No specific laboratory tests confirm solvent inhalation. Treatment is generally supportive. No controlled studies are available on the treatment of inhalant abuse or dependence. For inhalant induced psychosis, drugs such as carbamazepine and haloperidol may be helpful. Some research workers advocate comprehensive treatment plan including detoxification; assessment of physical, cognitive and neurological deficits; building new strengths in patient; training for therapist in solvent use; attention to personal and family issues; and assistance in returning back to community.

The deliberate misuse of volatile substances definitely poses a significant risk for considerable morbidity and mortality in adolescent populations for our country. Health care professionals are in a key position to identify inhalant abusers when clients seek...
treatment for medical problems caused by inhalants. If they are cognizant of the recognition, assessment and management of inhalant abuse, they can save a client's life.

REFERENCES


CASE REPORT

LONG-TERM PRURITUS AS THE INITIAL AND SOLE CLINICAL MANIFESTATION OF OCCULT HODGKIN’S DISEASE

SHAPOUR OMIDVARI, HABIB NOORANI KHOJASTEH, MOHAMMAD MOHAMMADIANPANAH, AHMAD MONABATI, AHMAD MOSALAEI, NILOOFAR AHMADLOO

ABSTRACT

Pruritus or itch is a frequent symptom of patients with Hodgkin’s disease. It often occurs during the clinical course of the disease and rarely may precede the diagnosis of underlying disease. In this report, we present a 16-year-old patient who had history of generalized pruritus without any skin rash for 4 years before the diagnosis of Hodgkin’s disease. Within that period, she had received symptom-oriented medications, with no significant effect. After the first cycle of chemotherapy, her pruritus resolved completely. This case suggests that long-term generalized pruritus may be indicative of a significant underlying problem like Hodgkin’s disease.

KEY WORDS: Hodgkin’s disease, long-term generalized pruritus, manifestation, chemotherapy, lymphoproliferative disorders

INTRODUCTION

Itch has been defined as a sensation, which provokes the desire to scratch. When it has no skin manifestation, the diagnostic evaluations should be directed at a systemic underlying cause. In most cases successful treatment of the underlying disease relieves itch. Itching occurs in about 30% of patients with Hodgkin’s disease. It is often worse at night and tends to occur in the area drained by involved lymph nodes in localized disease or become generalized especially in nodular sclerosis type with mediastinal involvement. Although pruritus is frequently seen in Hodgkin’s disease, its presence several years before diagnosis of the disease is rarely reported. Here we present such a case.

CASE REPORT

A 16-year-old girl with four years history of generalized pruritus while she had had no any rash and or other skin manifestation was referred to radiation oncology department. She had received various topical and systemic symptom-oriented medications without significant benefit. She had no history of fever, weight loss or night sweats. She had...