An Unusual Case of Suicide Attempt Using Intravenous Injection of Kerosene

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ABSTRACT

Kerosene is refined oil belonging to the hydrocarbon group of compounds, available for domestic use in developing countries. Poisoning is due to inhalation, ingestion. Kerosene. We report a rare case of attempted suicide by means of intravenous injection of kerosene. It has a devastating effect and it is important to initiate active and immediate surgical intervention. Psychotherapy should also be an integral part of the management.

Key words: Kerosene, suicide, intravenous injection

INTRODUCTION

Kerosene is refined oil belonging to the hydrocarbon group of compounds, obtained from crude petroleum. It is available for domestic use in developing countries mainly for cooking purposes. Poisoning is due to inhalation of fumes or ingestion of small amounts accidentally (children) or most of the cases reported in the literature were self-inflicted with the intention of committing suicide which constitutes significant emergency admissions.

We report a case of attempted suicide by means of intravenous injection of kerosene. This type of injury is very serious since it has potentially devastating consequences. Data is scarce on complications and outcomes following hydrocarbon poisoning by intravenous injection. The clinical findings and available literature are reviewed.

CASE REPORT

A 34-year-old male patient presented to our out-patient department with a history of injecting about 5 ml of kerosene to his left hand at two sites following an argument with his family members 2 days prior to presentation, with an intention to commit suicide. Initially he experienced mild pain and redness at the injected sites. After 2 days, the pain became intolerable leading to disturbed sleep, with multiple blisters and swelling of the left hand.

He is a chronic alcoholic, but he has had no psychiatric problems. No other significant medical history was noted.

On examination, he was an alert middle-aged man, moderately built and nourished, and well oriented to time, place, and person. He was in agonizing pain with a temperature of 38°C. Systemic examination was within normal limits.

Multiple vesicles and blisters were present over the left forearm and few over the dorsal aspect of the left hand. Few erosions were also present. Black discoloration extending from the hand up to the lower third of the arm was present. Local rise of temperature and tenderness was present from the hand up to lower...
third of arm. Patient was unable to flex the hand. Peripheral pulses (radial, ulnar, and brachial arteries) were feeble. Capillary refilling could not be elicited [Figures 1 and 2].

There were no other lesions. Examination of the mucus membranes, hair, and nails was normal. The following diagnoses were considered:
1. Irritant contact dermatitis
2. Cellulitis.

The patient was admitted to the ward; intravenous (IV) amoxycillin with clavulanic acid, IV steroid, and IV fluids were started.

The patient was referred to Department of Surgery and Psychiatry for an opinion. But the patient refused to take further treatment and left against medical advice.

DISCUSSION

Self-injection with kerosene is a rare but serious injury. IV or subcutaneous self-injections of commercial gasoline or kerosene with suicidal intent constitute extraordinary events in psychotic patients.[1] The lethal dose of kerosene for a 70 kg adult is 100 ml.[2] In 1977, Green first described a patient who survived a 3 ml IV injection of energine, a derivate of kerosene.[3] This patient developed lethargy, drowsiness, and a sterile abscess at the injection site without other systemic effects. Our patient had injected 5 ml of kerosene and developed lesions over the forearm, as described. Neeld and Vaziri each reported a case of IV injection of petroleum distillate that caused severe chemical pneumonitis. In both cases, pulmonary edema and hypoxemia developed, and in one, the patient suffered abrupt respiratory arrest immediately after injection.[4,5] Our patient had no respiratory symptoms at the time of presentation. Kosa reported an accidental IV injection of 10 ml of gasoline that resulted in a fatal outcome.[6] His patient developed immediate tonic–clonic seizures, lost consciousness, and died within 40 min after the injection. Our patient had no seizures and was alert. The case strongly suggested that hydrocarbons, as low-viscosity chemical compounds, have a direct toxic effect on lung tissue, interfering with gas exchange and leading to liquid interstitial pulmonary edema and severe hypoxemia caused by impaired diffusion. Other effects of hydrocarbon intoxication include acute renal damage with oliguria, hepatocellular damage, intracellular hemolysis, gastric ulcers, and cardiac toxicity with negative inotropism. Our patient, before we could investigate, left the hospital against medical advice. A case of self-inflicted acute necrotizing fasciitis with compromised venous return secondary to injection of kerosene was reported.[7] It causes a variety of systemic manifestations.[2] A study on the clinical findings and outcome in suicide attempts by IV injection of kerosene among IV drug abusers was done in Iran.[3]

CONCLUSION

This case is being reported for its rarity. Although kerosene is a easily available refined oil as it is used for household purposes, poisoning occurs by inhaling fumes and ingestion accidentally in children and with the intention of committing suicide in adults. Kerosene injection can produce severe tissue damage, especially if prompt surgical treatment is delayed. Therefore, it is important to initiate active and
immediate surgical intervention in the form of complete multiple fasciotomies, incision, and surgical excision of non-viable tissue. It should also be followed by active and repeated aggressive wound debridement until healthy granulation tissue is formed.

Psychotherapy should also be an integral part of the management.

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