Case Report
Eurasian Journal of Critical Care

Fatal Consequences of Lighter Gas Abuse: A Case Report

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Abstract

Volatile solvent abuse among young people poses a significant public health threat due to its accessibility and fatal outcome potential. This case report presents a 22 year old otherwise healthy male who died after lighter gas abuse, which highlights the severity of inhalant abuse related outcomes.

To conclude, volatile substance abuse proves to be a significant and rising problem across the globe especially among younger populations, driven by its immediate psychoactive effects and ease of access. Lighter gas is a commonly abused inhalant which contains volatile hydrocarbons that cause central nervous system and respiratory depression, cardiac arrhythmias, myocardial infarction and pulmonary edema. The exact mechanism of death associated with butane abuse is still uncertain, however research done by Pfeiffer et al. focused on acute and chronic myocardial changes, and lung histology that was similar to that of drowned persons which is characterized by capillary endothelial vesicular transformation and the development of obstructive microangiopathy. Intense nonspecific fibrosis with the absence of coronary disease with immunohistochemical analysis confirming acute ischemia was also noticed. Fatal arrhythmia is thought to arise from the inhaled hydrocarbons or 0.5-15% butane which are suspected to increase the myocardium's sensitivity to adrenaline, and this sudden hormonal surge is thought to be the culprit for the occurrence of fatal arrhythmia, and ventricular fibrillation like in this case.

Keywords: Lighter gas intoxication, Sudden cardiac death, Volatile solvent abuse

Introduction

Volatile solvent abuse among young people poses a significant public health threat due to its accessibility and fatal outcome potential. This case report presents a 22 year old otherwise healthy male who died after lighter gas abuse, which highlights the severity of inhalant abuse related outcomes.

Case Report

A 22 year old male was brought to our hospital by emergency services at 2 am in a critical condition without a pulse, intubated and actively undergoing CPR for 20 minutes. Before being admitted, emergency services noted that he went into ventricular fibrillation twice. Upon being admitted, CPR was continued, but the patient still had no pulse, with ventricular fibrillation present, requiring defibrillation. After CPR continued for 40 minutes, the patient was responsive to defibrillation, showing a detectable cardiac rhythm. Despite continuous monitoring, the patient continued to be hemodynamically unstable with hypotensive blood pressure readings. At 10 am, the patient went into cardiac arrest (Fig. 1), and adrenaline was administered every three minutes.

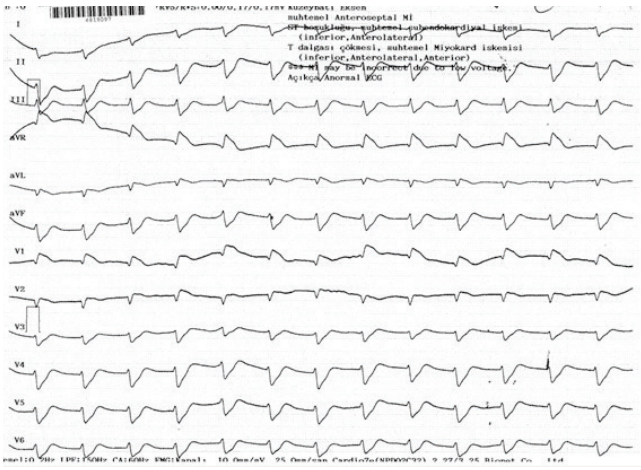

Figure 1: Electrocardiogram after performing CPR.

Despite all resuscitation efforts the patient succumbed to cardiac arrest.

Results and Conclusion

To conclude, volatile substance abuse proves to be a significant and rising problem across the globe especially among younger populations, driven by its immediate psychoactive

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Received: 05.08.2024 • **Revision:** 30.12.2024 • **Accepted:** 31.12.2024
DOI: 10.55994/ejcc.1528175

Cite this article as: Cakıroglu OF, Taslidere B, Arac B. Fatal Consequences of Lighter Gas Abuse: A Case Report. Eurasian Journal of Critical Care. 2024;6(3): 145-146

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Referances

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