BIPHASIC RESPONSE IN SEVERE NICOTINE INTOXICATION WITH ELECTRONIC CIGARETTE USE

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| ABSTRACT  INTRODUCTION:  The increase of Electronic-Cigarettes (ECs) use among youth population is mainly due to widespread perception that ECs are relatively less harmful as compared to conventional cigarette smoking.  CASE REPORT:  A 17-years-old male; an active EC consumer, presented to the Emergency Department with complaints of sudden onset dizziness, persistent vomiting and palpitation. Around one hour prior to symptoms, he had inhaled some unknown substance from an EC offered from a friend. Upon assessment, he appeared drowsy with a Glasgow Coma Scale (GCS) of E3V4M6, and pupils were non dilated, equal and reactive bilaterally. Breathing was normal and clear lungs examination. Initial blood pressure was hypotensive (82/43 mmHg) but with normal heart rate; 94 Beats Per Minute (BPM). He was given fluid resuscitation of 30 millilitre per kilogramme (mL/kg) of intravenous crystalloid. However, subsequently he became bradycardic down to 38 BPM with persistent hypotension. Nicotine toxicity was suspected, and patient was started on intravenous infusion of adrenaline. Urine for drugs screening were negative, and all blood investigations were within normal range. Computed Tomography (CT) of the brain and electrocardiography (ECG) were also normal. He was admitted to the Cardiac Care Unit (CCU) for suspected nicotine toxicity and was discharged well after 3 days.  DISCUSSION:  Commercialization of EC along with current public health policies allow direct public handling of liquid nicotine by consumers. Severe nicotine poisoning has a characteristic biphasic response, with initial excitatory symptoms, such as salivation, nausea, increased bronchial secretions, tachycardia, hypertension, anxiety, muscle spasms, and seizures, followed by symptoms of paradoxical inhibition, including dyspnea, bradycardia, hypotension, lethargy, and paralysis. While activated charcoal is the mainstay treatment in ingestion toxicity, inhalational toxicity is managed by treating the exhibited symptoms usually by pharmacotherapy.  CONCLUSION:  Open access purchase of high concentration liquid nicotine for EC use should be recognized as increasing risk for life-threatening toxicity. Regulations regarding liquid nicotine handling should be well enforced, along with public heath empowerment.  KEYWORDS:  Electronic-Cigarettes, nicotine, bradycardia |