Seizures are toxic and lethal complications that occur commonly owing to several poisons and drugs. Syndromes associated with drug withdrawal can also result in seizures as an adverse effect. Seizures induced by drugs can happen directly due to the alteration of neural pathways and the alteration of the inhibitory or excitatory receptors and transmitters within these neural pathways. Indirect impacts of drugs and toxins can also cause seizures by affecting oxygenation, brain perfusion, or disturbances in metabolism (1). Midwakh is a popular form of smoking tobacco products in various Middle Eastern regions, especially the ones used in the Persian Gulf (2). It contains a mix of herbs, spices, and thin dried tobacco shreds (3). The tobacco mix used inside the midwakh is known as dokha. While there is scant evidence regarding the impact dokha has on a person’s health, health officials are nonetheless concerned about dokha as a praised, better alternative to cigarettes (4). Also, preliminary studies discovered high concentrations of tar and nicotine in dokha; moreover, the initial analysis of dokha smoke has detected high toxins levels (5). However, the effects of midwakh on the central nervous system (CNS) are still ambiguous and require further research. The patient had a fit attack while smoking midwakh, although he had no previous disease history.

**Case Presentation**

A 17-year-old male was presented to the emergency department by an ambulance after he sustained a seizure while smoking midwakh at a restaurant. A witness who was a doctor at the restaurant at the time of the incidence came with the emergency medical services and confirmed it.

The patient was in a postictal state. On examination, he was confused and had a Glasgow coma score of 11 (motor 5, eye 3, verbal 3). His pupils dilated bilaterally. Also, he had tachycardia (140 beats/min.) with elevated blood pressure (180/100 mm Hg) and tachypnea (25 breath/min). He had a clear chest, no added heart sound, and a soft abdomen.

Consequently, the patient started to gain consciousness. He confirmed his smoking for the first time despite his initial denial. His neurological examination was regular. A blood test set, an ECG, a toxicology workup, and a venous blood gas analysis were conducted. The patient was monitored continuously, and intravenous fluid commenced. Moreover, a brain CT was performed and revealed a typical result while his ECG revealed sinus tachycardia.

Later, the patient’s vital signs started to improve with an optimum state of consciousness. The patient’s blood tests
came within normal limits apart from an elevated lactate level of 9 (0.2–1.8) mmol/L (Table 1). Additionally, his toxicology workup, including blood and urine, showed average results (Table 2).

Consequently, the patient was referred to the physician on call, who admitted the patient for further evaluation. In addition, the patient’s follow-up confirmed that all his tests, like electroencephalography and magnetic resonance imaging, were standard. The patient stayed for a few days with no more convulsive attacks and then discharged safely to follow with the neurology clinic.

**Discussion**

The severe consequences related explicitly to the use of dokha have scarcely been studied; only a few papers have investigated this. One study was conducted across male students from UAE Medical University; however, the research was uncontrolled. The study observed increased smoking midwakh, as is the case against cigarette smoking. Awareness through health agencies and the dangers of explanation. Moreover, we need to increase community history analysis. Besides, more detailed studies should be conducted on this topic for further evaluation and explanation.

In this case, the condition was similar to a case series reported in a study conducted in the UAE. The study included seven successive patients who had a history of midwakh-triggered seizures and negative epilepsy workups. Among these patients, six ceased midwakh smoking and did not report any further seizure incidents (8).

**Conclusion**

Previous studies have identified numerous drugs as likely causes of seizure attacks. In this case, we suggest that midwakh should be classified as an epileptogenic drug as well. Additionally, it is crucial for patients who present with recent seizures or a history of seizures without a clear known cause. It is important to perform a full drug history analysis. Besides, more detailed studies should be conducted on this topic for further evaluation and explanation. Moreover, we need to increase community awareness through health agencies and the dangers of smoking midwakh, as is the case against cigarette smoking.

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**Table 1. Blood test results of the patient**

| Blood Test                        | Results                  |
|----------------------------------|--------------------------|
| White blood cell count (WBC)     | 7.4 (4–11) ×10^9/L       |
| Haemoglobin                      | 15.4 (11.5–16.5) g/dL    |
| Platelets                        | 186 (140–440) ×10^9/L    |
| C-reactive protein (CRP)         | 0.3 (0–1) mg/L           |
| Troponin-T                       | 0.004 (<0.015) µg/mL     |
| pH                               | 7.31 (7.35–7.45)         |
| Glucose                          | 7.41 (4.11–7.81) mmol/L  |
| Alanine transaminase (ALT)       | 13 (less than 18) IU/L   |
| Aspartate aminotransferase (AST) | 18 (less than 23) IU/L   |
| Urea and electrolytes (U&E)      | Within normal limits     |
| Total creatinine kinase (CK)     | 172 (39–308) IU/L        |
| Calcium level                    | 2.39 (2.32 – 2.64) IU/L  |
| Magnesium level                  | 0.84 (0.70 – 0.91) IU/L  |

**Table 2. Blood and urine toxicology of the patient**

| Blood Test                        | Results                  |
|----------------------------------|--------------------------|
| Blood Ethanol level              | < 2.2 (Less than 2.2) mmol/L |
| Serum acetaminophen level        | < 5 mg/L                 |
| Serum Salicylate level           | < 3 mg/L                 |
| Urinary phenyclidine             | Not detected             |
| Urinary amphetamine screen       | Not detected             |
| Urinary Barbiturate screen       | Not detected             |
| Urinary Benzo diazepine screen   | Not detected             |
| Urinary Cocraine screen          | Not detected             |
| Urinary methadone screen         | Not detected             |
| Urinary Opiate screen            | Not detected             |
| Urinary Tricyclic Antidepressants | Not detected             |
| Urinary Methamphetamine screen   | Not detected             |
| Urinary Acetaminophen screen     | Not detected             |
Ethical issues
Written informed consent was taken from the patient for publication of this case report.

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