

# Gamma-hydroxybutyrate Withdrawal in Jamaica – A Case Report

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## ABSTRACT

*Gamma-hydroxybutyrate (GHB) use became more prominent during the 1990s in various parts of the developed world. To date, no case of GHB use has been identified in Jamaica, though this drug is frequently used in other parts of the world at “raves” and other parties characterized by elaborate lights and fast-paced music. Here, a case of a 30-year old visitor to Jamaica is presented, highlighting the typical features of GHB withdrawal and the ease with which this party drug can be imported into the country.*

**Keywords:** Drug use, gamma-hydroxybutyrate, GHB, prescription drug, withdrawal

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## INTRODUCTION

Gamma-hydroxybutyrate (GHB) emerged in the 1990s as a drug of abuse in the United States of America (USA), Europe and Australia (1). There has been no record of any case of GHB use identified in Jamaica, but given the fact that the island is a tourist destination for visitors from parts of the world where GHB is often used, and Jamaica’s proximity to the USA, cases of GHB-related disorders are likely to occur.

Gamma-hydroxybutyrate is a naturally occurring compound in the mammalian brain and is structurally related to gamma-aminobutyric acid (GABA). Gamma-hydroxybutyrate initially found use as an intravenous anaesthetic agent in places such as Europe and Japan, because of its ability to induce sleep and reversible coma (1). However, its use was withdrawn as it was found to have minimal analgesic properties and was associated with seizure-like activity at the onset of an induced coma (2, 3). Gamma-hydroxybutyrate has been shown to have the effect of causing decreased anxiety, euphoria, drowsiness and poor motor control (similar to alcohol) but additionally causes heightened sensuality and emotional warmth [similar to ecstasy] (1). Gamma-hydroxybutyrate also causes memory lapses and has been used to facilitate sexual assaults. Overdose on GHB may be associated with hallucinations, respiratory arrest, profuse sweating and blackouts. Withdrawal may cause confusion, agitation, paranoia, delirium, tachycardia and

hallucinations (4). Gamma-hydroxybutyrate has been said to be useful as a sleep aid and has also been marketed as a dietary supplement for body-building, despite unproven anabolic properties (5). It has also been found to be used as a “club drug” and at “raves” where it may be known as “G”, “fantasy”, “liquid ecstasy”, “grievous bodily harm” and “GBH” (5–7).

Gamma-hydroxybutyrate is a salty tasting liquid which may be swallowed, injected or shelved (per anal use) by its users (8). Another significant feature of GHB is that it may be coloured and this facilitates its discrete use and transport as a “medicine” (5). This is likely to allow GHB to be more easily transported to countries like Jamaica where there is naivety to this form of drug.

## CASE REPORT

A 30-year old man visiting Jamaica from the United Kingdom (UK) was arrested at the airport, as he attempted to leave the island, on suspicion of being a “body-packer”. He had been observed by personnel at the airport to be anxious and sweating. Oral swabs were done and reported to be positive for an illicit substance. The man was subsequently transported to a general hospital. Abdominal X-ray and stool examinations were done which proved negative. He developed strange behaviour, agitation, talkativeness and combativeness while at the general hospital. He also began showing his genitalia on the ward and making open sexual advances to other male patients. He was subsequently transferred to a psychiatric unit, two days after being admitted to the general hospital.

At the time of admission to the psychiatric unit, his blood pressure was 124/86 mmHg and pulse rate of 120

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beats/minute, with normal temperature and respiration. He was observed to be drowsy with rapid, lateral nystagmoid movements of his eyes. He appeared confused and spoke irrationally at times during the interview. He was also observed to be talking to himself and exhibiting listening behaviour, suggesting that he was experiencing auditory and visual hallucinations. Initial assessments of "substance misuse and delirium secondary to substance withdrawal" were made. He was placed on clonazepam 2 mg orally, twice daily, with a plan to titrate downwards every 48 hours, and haloperidol 5 mg orally/intramuscularly as needed. His laboratory and radiological investigations were done which showed no abnormalities.

The patient had been in Jamaica for a week and had spent his time at one of the high-end resorts in the island. He reported that he had been smoking two joints of marijuana per day but denied any other substance use. He was married with no children and lived with a roommate in the UK. He denied any previous psychiatric history. He later admitted to a history of benzodiazepine use prior to his arrival in Jamaica and cannabis use while in the island. Upon further questioning, he revealed that he had also used cocaine and oxycodone in the past and GHB during his stay in Jamaica. He admitted to bringing the GHB with him in a bottle and had used it earlier in the day prior to his attempted departure from Jamaica.

Two days into his admission to the psychiatric unit, he remained confused. He admitted to seeing "clouds and rain" on the floor of the unit. He appeared disoriented at times, with difficulty recalling details of his personal history, along with short-term memory impairment. He had obvious tremors of his upper limbs and was suspicious of those persons around him. He also had some slurring of his speech and responded inappropriately to some questions. By the third day of his admission to the unit, the patient's mental state had improved significantly. He was no longer disoriented and now asked to be discharged from hospital. He spoke coherently and had no thought or perceptual abnormalities. He continued to have a mild tremor to his hands until day five of his admission to the unit with no other residual symptoms. Clonazepam and haloperidol were discontinued and he was discharged after spending seven days on the unit with a diagnosis of polysubstance misuse (GHB, benzodiazepines, cocaine and cannabis) and substance (GHB) withdrawal. The patient's travel documents were returned to him by the police and he returned home to the UK.

## DISCUSSION

Gamma-hydroxybutyrate is considered to be a "club drug", mainly because its use has become associated with "raves". A feature of these types of parties is the fast pace of the music and the elaborate lighting displays used. The "club drugs" supposedly enhance the user's enjoyment of these parties by causing them to be more energized and have fewer

inhibitions (6, 7). In the Jamaican context, all-night parties with music of a similar pace to "raves" and with elaborate lighting and effects are becoming more popular. While the case reported was that of a visitor, it is worth mentioning that he stayed at the resort with a number of Jamaicans and that they had also partied with him. The relative ease with which GHB was brought into the country by the patient makes it fairly likely that others have done so or may do so in the future.

Laboratories manufacturing GHB have been identified in over 150 locations in the USA which has seen a dramatic increase in the number of persons presenting to emergency rooms with symptoms related to GHB use. A number of sexual assaults, as well as numerous deaths, have been reportedly related to GHB use (6). Undoubtedly, there is evidence indicating that the use of drugs like GHB may be associated with serious health consequences and hospitalization. An individual intoxicated with GHB is likely to experience central nervous system and respiratory depression, vomiting, bradycardia and seizures. The features of intoxication have been shown to be self-limiting and last approximately six hours. Most persons brought to hospital will survive, with those dying usually being found in that state at the scene (8, 9).

With the increasing use of GHB, symptoms of withdrawal have been identified. These symptoms are usually noted in persons who dose frequently over short intervals of time. The presentation is usually similar to that seen in chronic users of alcohol and sedative-hypnotic drugs. In studies looking at the psychiatric manifestations of GHB withdrawal, anxiety and agitation were the most commonly seen effects (10). Other effects seen include tremors, auditory and visual hallucinations, tachycardia and hypertension. There have also been reports of Wernicke-Korsakoff syndrome being associated with GHB withdrawal (9, 11). The case reported had a number of these features, including the memory impairment. He reported his last use of GHB to be hours prior to his departure time which is typical as far as the onset of GHB withdrawal symptoms. The primary pharmacological treatment for GHB withdrawal is benzodiazepines, with the literature suggesting that neuroleptics, betablockers, chloral hydrate and barbiturates have some efficacy in managing the withdrawal symptoms (11). The index case responded well to the standard treatment for GHB withdrawal, with the majority of symptoms remitting in three days and total recovery in five days. This is in keeping with the period of five to 15 days of symptoms or treatment that is considered normal for the management of GHB withdrawal.

This case reminds us of the global village in which we live, where we are likely to encounter new disorders, including those related to illicit substance use. This appears to be the first reported case of GHB use and withdrawal in Jamaica and should serve to encourage us to be vigilant in identifying these substances when they are brought to our

shores. Additionally, we should be on the lookout for unusual presentations of altered mental state, anxiety and agitation, particularly among young adult males.

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