

## Smoking Crushed-Boiled Hyoscine Butylbromide Tablets as Drug Abuse

### *Ezilmiş-Haşlanmış Hiyozin N-bütülbromid Tabletlerin İn hale Kullanımı*

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#### ÖZ

##### Amaç

Hiyozin-N-bütülbromid antikolinergik özelliklere sahip bir kuarterner amonyum bileşiğidir. Nikotinic ve muskarinic reseptörler üzerinden etki eder. Bu vakamızda, Hiyozin-N-bütülbromid tabletlerinin halusinojenik etkisinden faydalanmak amacıyla Hiyozin-N-bütülbromidi kaynatıp inhaleler olarak kullanan hastayı anlatmak amaçlandı.

##### Olgu

47 yaşında erkek hasta ajitasyon, halüsinasyon ve bulanık görme şikayeti ile acil servise başvurdu. Oryante ve koopere değildi. GKS:13 idi ve uykuya meyilli idi. Acil servis takipleri sırasında vital bulgularda, karaciğer, böbrek fonksiyon testlerinde ve elektrolitlerinde patolojik durum saptanmadı. Kranial bilgisayarlı tomografisi'nde de kanama veya enfarkt lehine bulgu saptanmadı. Başvurudan yaklaşık 6 saat sonra hastanın genel durumu düzeldi. Yapılan fizik muayenesinde GKS:15 idi ve görme bulanıklığı şikayetinin olmadığını belirtti. Hikayesinde Hiyozin-N-bütülbromid tabletlerini toz haline getirerek metal bir kap içerisinde ısıttığını ve dumanını inhale ederek halusinojenik etkisinden faydalandığını ifade etti.

##### Sonuç

Hiyozin-N-bütülbromid tabletleri nikotinic, muskarinic ve halusinojenik etkileri açısından değerlendirilmelidir. İnhaler olarak hazırlanabileceği, madde bağımlıları tarafından kötüye kullanılabilmesi unutulmamalıdır. Bu şekilde narkotik etkiye sahip farklı tablet formları olabileceği düşünülmelidir. Vaka sunumlarının yanı sıra kapsamlı bir araştırmalara da ihtiyaç vardır.

**Anahtar kelimeler:** Hiyozin-N-bütülbromid; inhalasyon; şuur bulanıklığı

#### ABSTRACT

##### Aim

Hyoscine-N-butylbromide is a quaternary amonium compound with anticholinergic properties. It acts through nicotinic and muscarinic receptors. In this case report, we aimed to describe the patient who boiled hyoscine-n butyl bromide and used it as an inhaler in order to benefit from the hallucinogenic effect of hyosine butylbromide tablets.

##### Case

A 47-year-old male patient was admitted to the emergency department with agitation, hallucinations and blurred vision. He was not orientated and cooperative. GCS: 13 and was prone to sleep. During the follow-up of the emergency department, vital signs, liver and kidney function tests and electrolytes were normal. There was no evidence of hemorrhage or infarct on Computer Tomography (CT). About 6 hours after admission, the patient's general condition improved. In his physical examination, GCS was 15 and he did not complain of blurred vision. In his story, he stated that hyoscine-N-butylbromide tablets were powdered and heated in a metal container and inhaled the smoke, taking advantage of the hallucinogenic effect.

##### Conclusion

Hyoscine-N-butylbromide tablets should be evaluated for their nicotinic, muscarinic and hallucinogenic effects. It should be remembered that it can be prepared as an inhaler and abused by drug addicts. It should be considered that there may be different forms of tablets with narcotic effect. In addition to case presentations, extensive research is needed.

**Keywords:** Hyoscine-N-butylbromide; smoking; consciousness

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## Introduction

Antispasmodic drugs are widely used in many clinics such as gastroenterology, urology, gynecology, neurology and emergency clinics (1). Hyoscine-N-butylbromide is a quaternary ammonium compound with anticholinergic properties. It acts through nicotinic and muscarinic receptors (1,2). It relaxes the smooth muscles of the gastrointestinal system, bile and excretory systems, and it also causes myorelaxation of uterus smooth muscles, so it can be used for dysmenorrhea treatment. In this case report, we aimed to describe the patient who boiled hyoscine-N-butyl bromide and used it as an inhaler in order to benefit from the hallucinogenic effect of hyoscine butylbromide tablets.

## Case Report

A 47-year-old male patient was admitted to the emergency department with agitation, hallucinations and blurred vision. His general condition was moderate to poor and he could not answer questions significantly. Redness and survival were present in both eyes. The light reflex was bilateral positive, but the patient had blurred vision. He was not oriented and cooperative. GCS: 13 and was prone to sleep. Blood pressure: 140/63 mmHg, respiratory rate: 22/min, pulse rate: 85/min,  $sO_2$ : 99%. Analysis of blood gases in emergency revealed a pH of 7.44,  $pCO_2$  of 37 mmHg, arterial oxygen saturation of 94% and  $HCO_3$  of 24.7 mmol/L. During the follow-up of the emergency department, vital signs, liver and kidney function tests and electrolytes were normal. There was no evidence of hemorrhage or infarct on Computer Tomography (CT). About 6 hours after admission, the patient's general condition improved. In his physical examination, GCS was 15 and he did not complain of blurred vision. In his story, he stated that hyoscine-N-butylbromide tablets were powdered and heated in a metal container and inhaled the smoke, taking advantage of the hallucinogenic effect.

## Discussion

Hyoscine-N-butylbromide, which causes muscle relaxation due to antimuscarinic effect, is also used in the treatment of cramp-like pain (3-5).

Kummer S et al retrospectively reviewed 2 different cases. One of the patients reported that he had been hospitalized with central anticholinergic symptoms while the other had more minor symptoms. Due to the Hyoscine-N-butylbromide's natural form inability to cross the blood-brain barrier, it has been thought that this is the cause of initially observed central anticholinergic symptoms. However, they learned that tablets were prepared with different methods and been transformed into central acting scopolamine (6).

Kruger et al observed that Hyoscine-N-butylbromide at high doses reduced secretion, motility and nerve activity due to nicotinic effects, while reducing muscle contractions, calcium mobilization and dependently epithelial secretion. As a result, while the antimuscarinic effect of Hyoscine-N-butylbromide is prominent, nicotinic antagonism appeared at high doses (7).

Although we could not predict the dose of nicotinic or muscarinic effect in the drinking of crushed hyoscine-N-butylbromide tablets. Our patient had marked blurred vision and loss of consciousness. The patient who had taken this medication once a week presented to our hospital with acute effects, suggesting that inhalation could be higher than the usual dose.

The use of hyoscine-N-butylbromide in patients with cardiac disease should be discussed (8). Our patient had no heart disease and no pathological data were detected during follow-up.

Hyoscine-N-butylbromide is a short-acting agent so the effects may not always show the desired effect for antimuscarinic treatment; for example in paralytic ileus, the effect is not significant (8,9).

To investigate the hallucinogenic effects, Hyoscine-N-butylbromide supplemented cigarettes were examined, scopolamine formation was observed in electrospray ionization mode by liquid chromatography-tandem mass spectrometry and in all cases scopolamine was detected. These cigarettes were obtained by crushing Hyoscine-N-butylbromide tablets (10).

Our patient complained of blurred vision and unconsciousness within 6 hours and mental status examination normalized. He reported that he used Hyoscine-N-butylbromide tablets for hallucinogenic effect once a week by heating and inhaling the smoke generated. Although cases of cigarette use have been reported, we have not reported any cases reported by boiling and inhalation of smoke to benefit from the hallucinogenic effect.

Crushed Hyoscine-N-butylbromide smoking symptoms such as amnesia, insomnia, palpitation, flushing, irritability have been reported in some case reports (10,11). The hallucinogenic effect has both increased the orientation to these investigations and has become the most obvious symptom. However it is still unknown how scopolamine acts as a hallucinogenic effect in the central nervous system.

## Conclusion

Hyoscine-N-butylbromide tablets should be evaluated for their nicotinic, muscarinic and hallucinogenic effects. It should be remembered that it can be prepared as an inhaler and abused by drug addicts. It should be considered that there may be different forms of tablets with narcotic effect.

In addition to case presentations, extensive research is needed.

**Conflict of Interest:** The authors declare no any conflict of interest regarding this article.

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