



Case Report

Novel complication of Flakka: Stevens-Johnson syndrome/Toxic epidermal necrolysis overlap[☆]



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ABSTRACT

Flakka, as the newest member of the synthetic cathinone group, is a substance with serious cardiovascular, neurological, psychiatric, infectious effects and addictive potential. There are only a few case reports and laboratory studies in the literature and there is no dermatological side effects reported yet. We present the first Stevens-Johnson syndrome/Toxic epidermal necrolysis (SJS/TEN) overlap case after Flakka use.

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1. Introduction

In recent years a new drug added to synthetic cathinone group. As the molecular name α -pyrrolidinovalerophenon (α -PVP), but usually known by the common street name “Flakka” or “Zombie Drug” is a member of the family of bath salts of synthetic cathinones [1]. Because of its amphetamine like effects, cheapness, easy access [2], it quickly spreaded to the streets and naturally it caused our emergency services to gain a new addict profile. Unfortunately, there is no evidence-based treatment or antidote for α -PVP, which has clinical effects of tachycardia, hypertension, hyperthermia, mydriasis, agitation, hallucinations, delirium, catotonia, aggressive behaviors, and cannot be detected in routine toxicology tests [3,4].

SJS/TEN is a serious skin disease with acute onset, painful extensive epidermal loss with mucositis [5]. Although drugs are usually cause of this condition; infectious agents and genetic differences have also been shown to cause SJS/TEN [6–9]. After the prodromal period (non-specific symptoms such as malaise, sore throat and fever), there is a widespread bullae formation occurring in the whole body with atypical target lesions and macules [5,10]. Also Nikolsky sign is positive in physical examination [8]. According to the ratio of affected skin/total body surface area, 3 subgroups were determined (<10%: SJS, 10–30%: SJS/TEN overlap, >30%: TEN) [11]. In the treatment, skin protective tape with frequent skin care, mucosal and eye care are important. In addition, intravenous fluid support, steroids, intravenous immunoglobulins (IVIG), immunosuppressive agents and plasmapheresis can be used [10,12].

2. Case report

A 24-year-old male patient was admitted to our clinic with the complaint of generalized rash on his body after inhaling the flakka in cigarette tobacco 5 days ago. He has no known diseases. The patient, who was started on treatment for substance addiction before, refused the treatment voluntarily. He didn't use any other drugs or substances together. In physical examination, vital values of patient were normal. In dermatological examination, dark purplish decomposition areas extending from the scalp to the nape, eroded areas on the ears and nose, purplish colored nikolsky positive decomposition areas accompanied by erosions on the face and neck (Fig. 1), typical-atypical targetoid sites, some of which are associated in the trunk, extremities, acral regions, loose bullous lesions and open erosions on acral regions were present (Fig. 2 and Fig. 3). Mucosal involvement had extensive erosion in the oral mucosa, erythema and purulent discharge in bilateral conjunctiva, erosion on the penis and scrotum. The affected skin ratio was 15%. In laboratory studies, CRP was 22 mg/dl, no other abnormality was found. The patient was internalized to the dermatology clinic with the diagnosis of SJS/TEN overlap; IVIG and methylprednisolone treatment was started. Daily skin care was improved. After 12 days of treatment, he was discharged with cure and policlinic control was recommended.

3. Discussion

“Bath salts” are known as synthetic analogues of cathinones produced from *Catha edulis* plants [2]. α -PVP, a member of this group, has a high risk of addiction with the amphetatamine-like effect [13]. Due to its high lipophilic effect, it causes high blood brain barrier penetration and high dispersion volume [14]. This situation causes effects such as

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Fig. 1. The patient's rash and mucositis on the face.

prolonged catatonia and psychosis [3,15]. Dopamine and noradrenaline reuptake inhibition are shown as the cause of stimulant and addictive effect [1].

Due to the fact that it is easily accessible and cheap, interest in α -PVP continues to increase with each passing year [4]. Unfortunately, users can easily obtain α -PVP from the internet or street vendors as in our case [2]. Chess game between smugglers and narcotics continues to favor smugglers. Despite the current prohibitions and training programs, drugs and stimulants are easily be obtained in the streets.

α -PVP can be used via oral, nasal, intravenous, sublingual, inhalation or rectal routes [2]. Failure to detect the substance in routine screening tests causes difficulties in diagnosis [16]. Due to the difficulty in the diagnosis and the relatively low number of patients in the emergency patient population, α -PVP rarely comes to the minds of clinicians. This suggests that there are more cases than actually detected.

When we look at the clinical applications, it is noteworthy that the effects are more amphetamine-like [1]. Apart from reported psychiatric effects, it has been shown to cause cardiac arrest, cerebral infarction, pulmonary edema, cardiac thrombus, multiorgan failure, acute renal failure and infectious diseases [1,2,4]. However, we didn't find any dermatological effects/side effects in the literature review. For this reason, our patient is the first case of SJS/TEN overlap related to α -PVP. Despite the high mortality rate of SJS/TEN, the fact that our patient is discharged home with healing is also a pleasant condition.

Keeping in mind α -PVP usage in differential diagnosis of patients admitted to emergency services after substance use will be helpful for patient and physician. It should be kept in mind that after the use of α -PVP, patients may also present with atypical presentations such as dermatological effects. Further research is needed to assist emergency physicians in diagnosis and treatment.



Fig. 2. The patient's back and penis with rash, bullae and erosions.



Fig. 3. The patient's knee and foot with rash and bullae.

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