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CASE REPORT

Dermatosis due to Methamphetamine Use: A Case Report

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Main Points

- The use of methamphetamine (METH) is increasing rapidly all over the world.
- METH use has many side effects, but reports of cutaneous side effects in METH users are rare in the literature.
- We present a 26-year-old male patient with itchy and red skin lesions on the face that developed after METH use.
- Clinicians should be careful about sudden skin lesions that develop after METH use.

Abstract

Methamphetamine (METH) is a widely abused psychomotor stimulant, and its use is increasing. Although serious side effects have been reported in METH users, reports of cutaneous side effects are rare in the literature. In this case report, we present a 26-year-old male patient with itchy and red skin lesions on the face that developed after METH use. We recommend that clinicians be careful about sudden skin lesions that develop after the use of METH. The results of this case report highlight the need for further research on the side effects of METH use.
Keywords: Methamphetamine, side effects, substance use, dermatosis, addiction

Introduction

It is reported that approximately 37 million people worldwide are methamphetamine (METH) users, and the use of METH is gradually increasing (McKetin, Lubman, Najman, Dawe, Butterworth, & Baker, 2014). METH is a psychomotor stimulant that causes temporary immunosuppression and is commonly abused. It has long-term effects, such as regulating immune cells and increasing susceptibility to infectious diseases (Papageorgiou, Raza, Fraser, Nurgali, & Apostolopoulos, 2019). Although serious side effects have been reported in METH users, cutaneous side effects have rarely been reported (Winkelman, Admon, Jennings, Shippee, Richardson, & Bart, 2018). Although the skin lesions appear mild, they can be a marker for substance users and help identify people at risk for the life-threatening effects of substance use.

The relationship between skin lesions and substances is not fully defined. Therefore, we believe that reporting any agent that triggers skin lesions will contribute to the literature. As such, our article is important because it is probably the first case of facial dermatosis which developed after METH use that has been reported in the literature. In this case report, we aim to present the relationship between herpes labialis and secondary dermatosis developing after METH use in a young male patient.

Case Presentation

A 26-year-old male patient was admitted to our outpatient clinic. The patient's complaints were restlessness, anxiety, fatigue, muscle pain, loss of appetite, sleep disturbance, and itchy and red skin lesions on the face. He said that the itching and red skin lesions appeared on his face after METH use.

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The patient was using heroin, cocaine, and METH, and had a 14-year history of substance use. The first substance he used was marijuana. He started using heroin 13 years ago, and was using 0.5 – 1 g of heroin daily with foil. He started using cocaine once or twice a week, 7 years ago.

The patient in our case started using METH for the first time 4 days before he applied to our clinic. He stated that he enjoyed METH excessively after its first use. For this reason, he started to increase the amount of daily use and had used METH very intensively for 4 days.

No finding was revealed in the patient's medical and family history. The patient had previously applied to outpatient clinics in other hospitals to treat for heroin use, and had taken buprenorphine naloxone in those instances. He had no other psychiatric diagnosis and had not undergone psychiatric treatment. In the mental state examination, the patient's self-care was good. His mood was euthymic, his affect was compatible with his mood, his speech was normal, and his associations were normal. In the physical examination, multiple small vesicular lesions on the lip margins and six hyperpigmented keratotic lesions in total, the largest of which were 8 × 10 mm and the smallest 2 × 3 mm in diameter, were detected on the chin, left cheek, and forehead.

The laboratory values were within normal limits. Hepatitis and human immunodeficiency virus markers were negative. Opiate and amphetamine were positive in urinary toxicology. The patient was evaluated diagnostically with the Structured Clinical Interview for DSM-5 (SCID-5). The patient, who was diagnosed with multiple substance use disorder according to DSM-5, was admitted to our service. The patient was referred to the dermatology department. The outcome of consultation was a diagnosis that the lesions around the lips of the patient were herpes labialis, and the others did not match any known dermatoses.

Figure 1. Vesicular lesions on the lip edges and keratotic lesions on the chin, left cheek, and forehead.

The patient was started on an oral antiviral drug (brivudine, 7 days, once a day), a topical cream (fusidic acid, transdermal), and buprenorphine + naloxane (8 mg/day). At the end of the antiviral treatment, the vesicular lesions disappeared completely and the other lesions regressed to a great extent. On the 12th day of his treatment, the patient was discharged from our service.

Discussion

In our case, it was thought that the herpetic exacerbation and other skin lesions developed secondary to the use of METH, due to the fact that the herpetic lesions around the mouth and the hyperpigmented lesions in the face area appeared in a short time following METH use. In addition, the patient did not have any possible triggering factors such as infection, drug intake, or drug withdrawal.

In many studies, it has been reported that METH regulates immune cells, increases susceptibility to infectious diseases, and affects brain plasticity by changing cytokine balance. In other words, it causes permanent neurotoxicity (Papageorgiou et al., 2019). Connor et al. showed that acute 3,4-methylenedioxy-N-methylamfetamine (MDMA) administration produces various time-dependent neurochemical, endocrine, and immune changes in rats. Their studies provided evidence that a single administration of MDMA causes a rapid and sustained suppression of induced lymphocyte proliferation and a decrease in circulating lymphocytes. It has been observed that changes in immune function are accompanied by a significant increase in plasma corticosterone concentrations (Connor, 2004). In a study by Pacifici et al., it was found that MDMA administered to humans causes rapid changes in some immunological parameters. A significant decrease in CD4+ T cell count and an increase in natural killer cell count have been demonstrated one hour after administration. The use of METH affects the adaptive immune response, which causes the development of many opportunistic diseases (Pacifici et al., 2001). Studies show that the use of METH leads to immune suppression. Therefore, we think that the use of METH caused herpes infection in the patient in this case.

Skin lesions can be seen in METH users. The use of METH may cause a sensation of something floating in the body or under the skin, skin-picking behavior, disruption in skin, and transmission of infections (Cohen et al., 2007).

In addition, METH can also cause a condition called delusional parasitosis by stimulating the central nervous system. In delusional parasitosis, patients have the feeling that something is floating on their skin. Also known as "meth mites" or "cocaine bugs," this condition is more common in acute intoxication and may cause severe self-harming behavior in users (de Leon, Antelo, & Simpsonk, 1992). However, our patient did not describe similar complaints, and the skin lesions occurred spontaneously after METH use, without scratching.

Diagnoses of ecthyma, neutrophilic dermatosis, and allergic reaction were excluded due to the absence of environmental exposure, animal contact, high fever, and leukocytosis. Skin-picking disorder was excluded because the lesions were seen only on the patient's face and there was no skin-picking behavior. The patient was intensely worried about the lesions. In addition, there were no odd shaped lesions at various stages of healing, and the patient's lesions appeared after the first use of a substance he had not used before. For these reasons, dermatitis artefacta was excluded. In addition, our patient's lesions improved rapidly after he stopped using METH. With all these findings, we determined that the skin lesions developed due to METH use (Vaiman, Lazarovitch, Heller, & Lotan, 2015; Vakharia & Silverberg, 2019; Brkić et al., 2020; Grant & Chamberlain, 2020; Gusdorf & Lipsker, 2020).

Although several serious illnesses due to METH use have been described (Herbeck, Brecht, & Lovinger, 2015), there are no dermatological diseases among them. In the literature review, no information could be found about a case of facial dermatosis that developed due to the use of METH. However, some facial dermatoses that developed after the use of crystal meth – ecstasy have been reported (Wollina, Kammler, Hesselbarth, Mock, & Bosseckert, 1998; Frieden, 2006).

The important feature of our case is that it is the first case of facial dermatosis which developed after the use of METH that has been reported in the literature. However, the lack of a histopathological diagnosis is an important limitation in our case report, since a biopsy of the patient's lesion was not carried out. For further studies, we recommend performing a histopathological examination in case of skin lesions that occur after METH use and attract clinicians' attention.

Conclusion

The use of METH has many negative effects on patients. However, dermatological problems in patients using METH are little known. Clinicians should be careful about dermatological problems that develop in patients using METH.

Informed Consent: Written consent of the patient was obtained for publishing a scientific article and sharing the photographs of his skin lesions.

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