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Case Study

The effect of Buprenorphine and Bupropion in the treatment of Methamphetamine dependency and Craving: a case report

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Abstract

Background: Methamphetamine dependency and abuse is a growing problem in the world.

Objective: To compare efficacy of buprenorphine and bupropion in the treatment of methamphetamine craving in a single case.

Results: Buprenorphine is more effective than bupropion in the treatment of methamphetamine craving.

Discussion: This case indicates although both buprenorphine and bupropion could be beneficial in treating methamphetamine dependency and withdrawal craving, however, buprenorphine is much more effective than bupropion. **This is a novel and interesting result.**

Conclusion: **To our knowledge there is not any report on buprenorphine use in the treatment of methamphetamine craving in Iran and other countries as well, therefore this case-study of an Iranian patient could represent the most innovative information.**

Introduction

We describe a patient with methamphetamine dependency and craving who responded better to buprenorphine than bupropion.

Although mental disorders especially addictions have been a problem in the world including Iran, however, methamphetamine abuse was a minor problem in Iran until the last couple of years (1-12). Recently, there has been increased usage, especially among the young, with an increase in methamphetamine related psychiatric presentations to hospitals.

Formerly, methamphetamine was illegally smuggled in from the west, but it is now synthesized in Iran in 'underground' laboratories. The methamphetamine synthesized in Iran

is of higher potency and is commonly associated with psychosis. A single episode of use has been associated with persecutory delusions and auditory and visual hallucinations.

This study was approval by the ethics committee and patient's informed consent was signed. To our knowledge there is not information on this matter in Iran and other countries as well, therefore this case-report of an Iranian patient could represent the most innovative information.

Case Presentation

AR was a single, 22 year old graduate in higher diploma and self-employed. He lived in Shiraz city of Fars province in south Iran with his parent. There was no personal or family history of medical problems, and no history of head trauma.

AR began daily smoking of methamphetamine and heroin 5 years ago -after his father death. There was no history of cannabis or cocaine use in the past.

In short, when he was brought to hospital by his relatives, AR had been smoking methamphetamine and heroin daily for 5 years prior to admission (October 28, 2014). Physical and neurological examinations were normal. Serology for HIV and hepatitis were normal. Drug screening was positive for methamphetamine and morphine (consistent with methamphetamine and heroin use).

The common use of buprenorphine is for the treatment of opioid withdrawal and also treatment of pain. Now we are using buprenorphine as a new method for the treatment of methamphetamine dependency and craving(13-26).

AR was given buprenorphine 4 mg sublingually twice daily (we use buprenorphine twice daily to decrease the side effects of buprenorphine), to reduce methamphetamine withdrawal and craving for 2 weeks. He was closely monitored by every day interview asking craving of methamphetamine (base on the DSM-IV criteria-American Psychiatric Association) ranging from 0 (minimum) to 10 (maximum). The craving scores for the 14 days of admission were: 7, 7, 6, 5, 4, 4, 2, 1, 0, 0, 0, 0, 0, 0, respectively (Mean = 2.57).

AR was discharged after 2 weeks.

AR was taking buprenorphine 4 mg sublingually every day and was in good condition.

After 9 weeks, he stopped taking buprenorphine and developed methamphetamine craving. 4 weeks before second admission (February 3, 2015), AR again began to smoke methamphetamine.

In second admission, AR was given bupropion 150 slow release mg orally twice daily (as another option), to reduce methamphetamine withdrawal and craving for 2 weeks. He was closely monitored by every day interview asking about craving of methamphetamine ranging from 0 (minimum) to 10 (maximum).

The craving scores for the 14 days of admission were: 8, 7, 7, 5, 6, 5, 5, 6, 4, 5, 4, 4, 5, 7, respectively (Mean = 5.57).

AR was discharged after 2 weeks with bupropion slow release 150 mg orally twice daily.

Discussion

This case illustrates although both buprenorphine and bupropion could be beneficial in treating methamphetamine dependency and withdrawal craving, however, buprenorphine is much more effective than bupropion.

we should emphasize that the abuse of methamphetamine in Iran is something that was not already documented elsewhere and that the even the local clinicians should therefore prompt their own attention toward an early proper recognition of those cases who should present with suggestive, yet still locally uncommon, clinical pictures.

As we know and also to our understanding, buprenorphine use in these conditions have not been reported previously, and this report is an important addition to the literature. It is of interest that buprenorphine continues to be used with good effect in leading centers in Iran.

Conclusions:

To our knowledge, buprenorphine use in these situations have not been informed previously, and this case report is an important addition to the literature. This is a novel and interesting result. It is important that buprenorphine continues to be used with good effect in leading centers in Iran.

Conflict of interests: Nil

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