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Treatment of heroin dependence with 40 mg of buprenorphine: a novel passageway

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ABSTRACT

Background: Heroin abuse is a rising problem. Objective: To investigate the effect of a single dose of 40 mg of buprenorphine for the management of dependency to heroin. Results: A single dose of 40 mg of buprenorphine administration is very helpful for the treatment of heroin dependents. Discussion: This study demonstrates that one dosage of 40 mg of buprenorphine is beneficial for the management of heroin dependence. This finding is valuable. Conclusion: We reach to this fact that a single dose of buprenorphine may treat heroin withdrawal symptoms very well. This result is a considerable addition to the literature of heroin dependence.

Key words: Buprenorphine; Single dose; Heroin withdrawals

INTRODUCTION

Heroin is a synthetic product and an opioid mu receptor agonist which is derived and synthesized from opium. Opium has a long history of medical, recreational and societal acceptance in some areas of the world such as opium-producing nations of Asia, Europe and North America [1, 2]. Methadone is a synthetic product and a pure agonist of opioid mu receptor [3]. Buprenorphine has been under intensive evaluation for the treatment of dependency to opioids since the late 1970s [4]. Research studies in the treatment of opioid dependence, comparing methadone with buprenorphine, clarify that buprenorphine is more helpful and safer than methadone [5, 6, 7]. For example, Johnson, Jaffe,
and Fudala showed that 8 mg of buprenorphine per daily is as effective as 60 mg of methadone regarding retention rates and opioid negative urine [8].

Since buprenorphine is a partial mu receptor agonist, so its use has slight possibility of overdose. Buprenorphine administration has low possibility of physical dependence. Methadone and buprenorphine lessen the incidence of HIV and other problems which are associated to opiate dependence. Buprenorphine detoxification is easier than methadone. Methadone is absorbed very well after oral administration but buprenorphine is well absorbed after sublingual use, reaching 60%–70% of the plasma concentration, but poorly absorbed if received orally [4, 9, 10].

Health disorders especially psychiatric disorders are growing up world wide [11-29]. Among psychiatric problems, substance related disorders, especially opioids and stimulants related problems have been mentioned as a raising dilemma. Nowadays, opioids and stimulants induced mental disorders have produced more referrals to clinics and hospitals [30-75]. The Food and Drug Administration (FDA) approved buprenorphine for the treatment of opioids withdrawal symptoms and pain [3]. Presently, we are practicing a single dose of 40 mg of buprenorphine for the management of heroin withdrawal symptoms and craving.

To our understanding, we cannot find sufficient published research on this topic; therefore, this investigation may result to a novel finding. Investigator made a reliable and valid questionnaire [32, 69, 70] to score heroin withdrawal pain and craving (based on DSM-5 criteria), covering grades from 0 to 10 (0 means no pain or craving at all and 10 means severe pain or craving and desire all the time). Pain and Craving Scale of measurement: 0-1-2-3-4-5-6-7-8-9-10.

PATIENT DISPLAY

We illustrate a patient with heroin dependence who improved with a single dose of 40 mg of buprenorphine.

MZ was a married 29 year old self employed patient with higher diploma education. He lived with his family in Arsanjan city of Fars province located in south of Iran. He began smoking heroin since 5 years prior to admission. He gave history of smoking methamphetamine as well. Patient gradually developed depressed mood, aggression, self injury, paranoid delusion and hallucination. Since a couple of months prior to admission his symptom were exaggerated and was admitted in psychiatric ward. In comprehensive psychiatric interview and examination, patient had opioid withdrawal symptoms, aggression, depressed mood, agitation and insomnia. In precise physical and neurological examinations there were no abnormal findings. Serology tests for viral markers (HIV, HCV and HB Ag) were normal. Urine drug screening tests was positive for morphine only.

Based on exact medical, psychiatric, and substance use history and also DSM-5 criteria, his diagnosis was “opioid related depressive disorder and opioid (heroin) dependence. At the time of admission he reported symptoms of opioid withdrawal especially pain and craving. So he received clonidine 0.3 mg, baclofen 75 mg and ibuprofen 1200 mg daily for the treatment of withdrawal symptoms.

For the treatment of agitation, depression and self injury, MZ received sodium valproate 400 mg and olanzapine 20 mg per day.

In the night of admission (first hours of admission) his craving was 7 pain and craving scale of measurement, and on the first day of admission after beginning clonidine, baclofen and ibuprofen his craving was 5.7. Since he was still complaining of considerable pain and craving, he received a single dose of 40 mg of sublingual buprenorphine on the second day. Following buprenorphine administration, he experienced less craving and pain.
Out of 10, the mean scores of heroin craving for 10 days of admission were 7, 5.7, 4.7, 2, 1, 1.7, 1, 0.3, 0.7 and 1 respectively. Based on the close monitoring, measurement and interview (3 times a day) for heroin withdrawal craving, MZ reported a declining level of craving after administration of a single dose of 40 mg of buprenorphine. After 10 days of hospital admission, MZ was discharged without any considerable withdrawal symptoms and craving.

DISCUSSION

Iranian drug policy states that if individuals are found to be using illegal substances, such as, methamphetamine, marijuana, hashish, cocaine, hallucinogens, alcohol, heroin, opium and morphine (tobacco products are legal), they must be referred to treatment centers, psychiatric hospitals or private clinics to be treated. Iranian heroin dependents are usually detoxified and treated with methadone, clonidine and sometimes with buprenorphine. The current study clarifies that buprenorphine 40 mg as a single dose only, is very valuable in the treatment of heroin withdrawal symptoms. So this could be a considerable addition to the literature.

CONCLUSIONS

It appears that a single dose of 40 mg of buprenorphine could treat heroin withdrawal symptoms very well.

It seems that buprenorphine is very helpful for the treatment of heroin dependence in Iran. Administration of buprenorphine is much better than traditional methods, such as gradual decrease in the dose of heroin or abrupt cessation without any drug.

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