BUPRENORPHINE FOR THE DETOXIFICATION OF HEROIN DEPENDENCE

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Abstract: Background: Heroin abuse is a considerable problem. Objective: To illuminates the efficacy of a single dose of 66 mg of sublingual buprenorphine in the treatment of heroin dependence. Results: Administration of a single dose of 66 mg of buprenorphine is quite effective in the treatment of heroin dependence. Discussion: Our study clarifies that administration of a single dose of 66 mg of buprenorphine is quite effective in the management of heroin withdrawal symptoms. So, the present study might be a considerable addition to the literature. Conclusion: A single dose of sublingual buprenorphine could treat heroin withdrawal symptoms and be as effective as daily buprenorphine. We concluded that, a single dose of buprenorphine is much better than traditional methods, such as sudden cessation or stepwise reduction in the heroin dosage.

Key words: Buprenorphine; Heroin withdrawals

Introduction: Heroin is synthesized from opium and morphine. Opium has had a broad history of medical, social and recreational acceptance in some districts of the earth such as opium-producing zones of Asia since numerous centuries ago (1, 2). Opium which is a pure mu receptor agonist is produced from opium poppy. Buprenorphine is a synthetic product and partial agonist of opioid mu receptor (3, 4). It has been under extensive surveillance for the handling of opioid dependence since the late 1970s (4). Research studies in the management of opioid dependence, comparing buprenorphine with methadone, indicate that buprenorphine is more helpful and safer than methadone (5, 6, 7). Research workers such as Johnson, Jaffe, and Fudala expressed that buprenorphine 8 mg per day is equivalent to 60 mg of methadone looking upon retention rates and also opioids negative urine (8).

Buprenorphine is well absorbed after sublingual administration. It has less probability of overdose and physical dependence.
Buprenorphine decreases the incidence of HIV and other problems related to heroin dependence. (4, 9, 10, 11).

Medical and mental health dilemmas are boosting universally (12-29). Among psychiatric sicknesses, substance use disorders and substance related disorders especially opioids and stimulants produced problems have been defined as enigma. In recent years, opioids and stimulants related and induced mental illnesses have resulted in more drops-in to addiction centers (30-98).

In recent years in Iran patients with substance use disorders have gained more care, concern and consideration than the previous periods so that have motivated more attendance to substance abuse hospitals and centers (99-118).

Currently, we are studying a single dose of 66 mg of buprenorphine for the reduction and cessation of heroin withdrawal symptoms especially craving.

The Food and Drug Administration (FDA) approved buprenorphine in the management of pain and heroin withdrawal symptoms (3).

Considering the DSM-5 criteria, principal investigator (Dr. Ahmadi) provide and composed a reliable and valid score (32-37 and 41-43) to rate and grade substance withdrawal craving and opioid withdrawal pain, including grades from 0 to 10 (0 means no pain or craving at all and 10 means severe pain or craving and temptation all the time).

Craving Scale of measurement: 0-1-2-3-4-5-6-7-8-9-10.

To the best of our knowledge there are not significant published reports on this matter, therefore, our experience could increase to the literature.

**Patient disclosure**

In the present study we are going to display a patient with heroin dependence that reacted successfully to 66 mg of buprenorphine as a single dose.

MS was a single 23 years old jobless with guidance school education. He inhabited with his family in the city of Noorabad of Fars province in Iran.

He began smoking tobacco and heroin at age of 18. MS stepwise developed anxiety, irritability, hopelessness, depressed mood and insomnia. Two weeks prior to the current admission his brother died, then his symptoms worsened and developed suicidal thoughts.

Due to depression, hypo activity, irritability, insomnia and suicidal thoughts he was admitted in psychiatric emergency room and then was transferred to psychiatric ward.

In psychiatric interview and mental status examination he was suicidal, depressed and irritable. In physical and neurological examinations we could not observe, any significant abnormal findings.

Urine drug screening tests were positive for morphine and buprenorphine only. Tests for viral markers (HIV, HCV and HB Ag) were normal.

Based on DSM-5 criteria and comprehensive medical, psychiatric, and substance use history MS was diagnosed as “opioid related depressive disorder, and opioid and tobacco use disorder.

Due to substance related disorders he had some hospital and addiction camp admissions in the past years.

In hospital admission, he received venlafaxine 75 mg, valproate 400 mg, and chlorpromazine 100 mg per day for the treatment of depression, irritability and insomnia.

In the fifth day of admission he complained of withdrawal pain and opioid craving, therefore, we administered buprenorphine 66 mg as a single dose only.

Based on close monitoring and interview (3 times a day) for heroin withdrawal pain and craving, he experienced a very low level of pain and craving after receiving of 66 mg of sublingual buprenorphine as a single dose only. MS was discharged without any significant heroin withdrawal symptoms after 12 days of hospital admission.

**Discussion:** It should be mentioned that in Iran opioids dependent patients are commonly detoxified and treated with clonidine, methadone and sometimes with buprenorphine.

Iranian drug policy declares that if an individual is observed to be utilizing illicit substances or...
drugs, such as, opioids, hashish, marijuana, alcohol, ecstasy, methamphetamine, hallucinogens and cocaine, he/she must be directed to addiction treatment centers such as psychiatric hospitals or private clinics to be under treatment.

Our study makes clear that sublingual administration of 66 mg of buprenorphine as a single dose is quite effective in the management of heroin withdrawal symptoms. A single high dose of 66 mg of buprenorphine which has been administration for the first time in the literature, illuminated that one single high dose is as effective as daily administration of buprenorphine. Since single dose administration occurs for one episode only, therefore the possibility of buprenorphine dependence is very low in comparison to daily buprenorphine consumption. Hence the present report might be a considerable addition to the literature.

Conclusions: It can be resulted that a single dose of sublingual buprenorphine could treat heroin withdrawal symptoms at least for short time, and could be as effective as daily sublingual buprenorphine administration.

We concluded that, a single dose 66 mg of buprenorphine is much better than traditional methods, such as sudden cessation or gradual reduction in the dosage of heroin smoking.

Acknowledgement: We were on our own.

Conflict of interests: None to be declared.

References:
14- Pridmore S, McInerney G, Ahmadi, Rybak M. Enlarged Virchow-Robin spaces in a


24- Pridmore S, Ahmadi J; Psalm 137 and Middle Cerebral Artery Infarction; ASEAN Journal of Psychiatry, 16 (2). 2015.


34- Ahmadi, J. Excellent Outcome of Psychosis Induced by Methamphetamine Intoxication after 20 Sessions of Electro Convulsive Therapy. J Addict Depend 1(2): 1-2. 2015


58- Ahmadi, J., Menzies, P., Maany, I., et al., Pattern of cocaine and heroin abuse in a sample
of Iranian general population. German J Psychiatry. 8 (1): 1-4, 2005
82- Ahmadi, J., Javadpour, A. Assessing substance use among Iranian health care
105- Ahmadi J, Dastgheib SA, Mowla A, Ahmazdadeh L, Bazrafshan A, Moghimi Sarani EM, Treatment of Methamphetamine Induced