

Treatment of Chronic Methadone Dependence with Buprenorphine

Jamshid Ahmadi

Substance Abuse Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

***Corresponding author:** Jamshid Ahmadi, Professor of Psychiatry, Founder and Director, Substance Abuse Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, E-mail: Jamshid_Ahmadi@yahoo.com

Abstract

Background: Methadone abuse is a puzzle.

Objective: To uncover the achievement of a single high dose of 64 mg of buprenorphine for the remedy of methadone dependency.

Results: 64 mg of buprenorphine as a single administration can be sufficient for the treatment of methadone dependent patient.

Discussion: Our study indicates that buprenorphine 64 mg as a single dose only, can be sufficient for the treatment of methadone withdrawal symptoms. So, this work may be a substantial addition to the literature.

Conclusions: We can conclude that a single high dose of buprenorphine may be enough for the treatment of methadone withdrawal symptoms.

Received Date: June 20, 2016

Accepted Date: July 21, 2016

Published Date: July 25, 2016

Citation: Ahmadi, J. Treatment of Chronic Methadone Dependence with Buprenorphine. (2016) *J Addict Depend* 2(3): 93- 95.

DOI: 10.15436/2471-061X-16-025

Keywords: Buprenorphine; Single high dose; Methadone withdrawals



Introduction

Methadone is a synthetic product and a pure opioid mu receptor agonist which is commonly synthesized from opium. Utilization of opium has a long history of medicinal purposes in some areas of the world^[1-3].

Since the late 1970s buprenorphine has been under intensive investigation for the treatment of opioids dependence^[4]. Studies in the management of opioids dependence, comparing methadone with buprenorphine, showed that buprenorphine is more useful and more secure than methadone^[5-7]. Johnson, Jaffe, and Fudala uncovered that buprenorphine with a dose of 8 mg daily is as effective as 60 mg of methadone^[8].

Buprenorphine is a partial agonist, so its use has slight possibility of overdose. Buprenorphine utilization has little possibility of physiological dependence. Buprenorphine and methadone diminish the incidence of HIV and other problems related to opioids abuse. Detoxification of methadone is more difficult than buprenorphine. Absorption of methadone is very well following oral administration but buprenorphine is well absorbed when administered sublingually, reaching 60% – 70% of the plasma concentration, but poorly absorbed when administered orally^[4,9,10]. Based on the present data, medical and mental health problems are moving up globally^[11]. In mental diseases, substance connected disorders, have been reported as a raising enigma^[12]. According to the published research reports, opioids and stimulants related disorders have caused more admissions to clinics and hospitals^[13-16].



Buprenorphine was accepted for the treatment of pain and opioids withdrawal symptoms^[3]. We are now testing a single high dose of buprenorphine for the management of methadone withdrawal symptoms. Based on the authors' understanding, we did not obtain published studies on this subject; hence, our finding may result to a new finding.

We ourselves made a Visual Analogue Scale (VAS) and verified it empirically for reliability and validity to grade the methadone withdrawal pain and craving, ranging from 0 to 10 (0 means no craving or pain at all and 10 means severe craving and temptation all the time). We also instructed the subject precisely about scoring^[13-16].

Validated and reliable craving scale: 0-1-2-3-4-5-6-7-8-9-10.

Patient description

We go for describing our patient with long term methadone dependency who was treated by a single dose of 64 mg of buprenorphine. HR was a single worker with the age of 41 and educated at the level of secondary school. He resided in the south of Iran, city of Genaveh, province of Hormozgan with his parents.

He commenced smoking of tobacco, opium and heroin since 15 years prior to admission. Then, five years later he quit heroin smoking and started oral use of methadone 150 mg per day. Since 8 months prior to admission he diminished the dose of methadone to 40 mg daily. HR gradually developed depressed mood, aggression, suicidal and homicidal tendency. Since 4 months prior to admission his symptom were exaggerated and was admitted in psychiatric ward.

During precise and comprehensive psychiatric interview and examination, he had anxiety, aggression, irritability, depressed mood, agitation and insomnia. With reference to physical and neurological examinations and history he had panic attack and dyspnea. Before admission, urine drug screening test was positive for methadone only. Tests of serology for viral markers (HIV, HCV and HB Ag) were normal.

Based on exact medical, psychiatric, and substance use history and also DSM-5 criteria, his diagnosis was "opioid induced depressive disorder with severe use disorder". At the time of admission HR complained of symptoms of opioid withdrawal especially pain and craving. Hence we administered clonidine 0.3 mg, tizanidine 24 mg and ibuprofen 1200 mg daily for the treatment of withdrawal symptoms. He also received olanzapine 20 mg, valproate 400 mg, venlafaxine 150 mg and chlorpromazine 100 mg per day for the treatment of depression, anxiety, fear, irritability, panic attack and insomnia. Yet he was suffering of significant pain and craving, so on the 4th day of admission he received a single dose of 64 mg of sublingual buprenorphine. Following buprenorphine administration, he reported less craving and pain.

The scores of opioid (methadone) craving for 7 days of hospitalization were 4.5, 5.3, 3.3, 0.3, 0.7, 0.7, and 1 respectively.

Based on the close monitoring, measurement and interview (3 times a day) for methadone withdrawal craving, HR reported a declining level of craving after administration of a single dose of 64 mg of buprenorphine. After 7 days of hospital (3 days after discontinuation of buprenorphine) he was discharged without any significant withdrawal symptoms and craving. We have already followed the patient for several weeks after discontinuation of buprenorphine. He is still clean.

Discussion

In Iran methadone dependents are usually detoxified and treated with clonidine and analgesics. When an Iranian person was found to be abusing illegal substances or drugs, such as methadone, tramadol, codeine, methamphetamine, amphetamine, marijuana, hashish, hallucinogens, alcohol and cocaine, he/she must be advised to the addiction treatment centers for the appropriate management.

In order to reach a high level buprenorphine and for a longer period in the patient's blood serum, we administer 64 mg buprenorphine as a high dose. Our study displays that buprenorphine 64 mg as a single dose only, could be sufficient for the management of methadone withdrawal symptoms. Therefore, this report may be a substantial addition to the literature.

Conclusion

We can conclude that a single dose of 64 mg of buprenorphine may be enough for the treatment of methadone withdrawal symptoms. It looks that taking a single high dosage of buprenorphine is as effective as everyday administration of low dose buprenorphine.

Acknowledgement: None to be declared.

Conflict of interests: None to be reported.

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