Treatment of heroin dependence with a single dose of 32mg of Buprenorphine: A new inlet.

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Abstract:
Background: Heroin dependence is currently an advancing problem.
Objective: To demonstrate the efficacy of a single dose of 32 mg of buprenorphine in the treatment of heroin dependence.
Results: A single dose of 32 mg buprenorphine is very beneficial in the treatment of heroin dependence.
Discussion: Our study indicates that one dosage of 32 mg buprenorphine is very effective in the treatment of heroin dependence. This is an excellent finding.
Conclusion: We conclude that a single dose of buprenorphine could manage heroin withdrawal symptoms. This finding is a significant addition to the literature.
Key words: Buprenorphine; Heroin withdrawals

1. Introduction
Buprenorphine has been beneath intensive study for the treatment of dependency to opioids since the late 1970s (1). Findings from the United States, comparing buprenorphine with methadone for the handling of opioids dependence, elucidate the safety and usefulness of buprenorphine in comparison to methadone (2, 3, 4). For instance, Johnson, Jaffe, and Fudala revealed that 8 mg of buprenorphine per day was comparable to 60 mg of methadone in terms of opiate negative urine and retention rate (5). Buprenorphine is a partial agonist and has ceiling, so its use has less possibility of overdose. As a recent treatment, buprenorphine has less physical dependence. It reduces the incidence of HIV and other problems resulting from opiate abuse. It is easier to detoxify from buprenorphine than methadone. Buprenorphine is well absorbed after sublingual use, reaching 60%–70% of the plasma concentration, but poorly absorbed if applied orally (1, 6, 7).

Heroin is an opioid mu receptor agonist and is derived from morphine that was earlier presented as a non-addictive derivative form of morphine (8).

Opium has been consumed for an extensive time and has a lengthy history of medicinal and societal approval in several parts of the world, such as Asia, North America and Europe (9, 10). Medical and psychiatric troubles are elevating globally 11-24). In mental diseases, substance attached disorders, especially opioids and stimulants related problems have been contemplated as enlarging globally dilemma. At the present time, opioids and stimulants-connected mental disorders are a growing problem and have produced more referrals to outpatient units, emergency wards, and inpatient psychiatric inpatients centers (25-63).

Buprenorphine is approved for the treatment of pain, and heroin withdrawal symptoms (8). Presently we are rehearsing a single dose of 32 mg of buprenorphine for the reduction and cessation of heroin withdrawal symptoms and craving.

As we know, there are not sufficient published papers on this matter, so, this report could uncover a new conclusion.

Researcher set up a reliable and valid scale of measurement (31, 32, 33) to appraise the withdrawal pain and craving (based on DSM-5 criteria) for heroin withdrawal pain and craving, covering scores 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 demonstration
We describe a patient with heroin dependence who practically replied to a single dose of 32 mg of buprenorphine.

Our patient (SZ) was a single 26 year old unemployed with higher diploma education. He lived with his family in Fassa city of Fars province in southern area of Iran.

SZ developed depression after a love failure 3 years prior to the current hospital admission. He was taking antidepressant medications on and off. He commenced smoking heroin continuously since 5 months prior to admission. He gave history of smoking hashish and methamphetamine occasionally. Since 2 months prior to admission he developed depressed mood, hopelessness, crying, helplessness, suicidal behavior, restlessness, auditory hallucination, agitation and insomnia. He committed suicide with ingestion of drugs one week prior to admission. Due to suicidal thoughts, severe depression, agitation and impulsive behaviors he was admitted in psychiatric emergency unit and then was transferred to psychiatric ward.

In psychiatric interview and examinations SZ had depressed mood, agitation and insomnia. In exact physical and neurological examinations we could not find any abnormal findings. Urine drug screening tests were positive for morphine and methamphetamine. Serology tests for viral markers (HIV, HCV and HB Ag) were normal.

Based on DSM-5 criteria, and also comprehensive medical, psychiatric, and substance use history he was diagnosed as ‘opioid induced depressive disorder and opioid use disorder.

During admission, he received sodium valproate 400 mg, olanzapine 20 mg and paroxetine 20 mg per day for the treatment of depression, agitation and insomnia.

On the first and second days of admission he reported severe withdrawal pain and severe heroin craving, so SZ received buprenorphine 32 mg as a single dose only on the evening of 2nd day of admission.

Out of 10, the mean scores of heroin craving for 9 days of admission were 7, 5, 3, 3, 1, 1, 0.7, 1, 0.3, and 0 respectively.

According to the precise monitoring, measurement and interview (3 times a day) for heroin withdrawal craving, he experienced a decreasing level of craving after receiving a single dose of 32 mg buprenorphine.

Based on the close observation and detailed interview (3 times a day) for heroin withdrawal pain, he reported much more heroin withdrawal pain before receiving buprenorphine than after that so that he did not complain any significant pain after taking buprenorphine.

SZ was discharged without any significant heroin withdrawal symptoms after 9 days of admission.

Discussion
This study makes clear that buprenorphine 32 mg as a single dose is very effective in the reduction and cessation of heroin withdrawal symptoms. Therefore, our case study is a substantial addition to the literature.

Conclusions:
It seems that a single dose of buprenorphine may manage heroin withdrawal symptoms.
We concluded that buprenorphine is a safe and outstanding medication for the treatment of heroin dependent patients. Buprenorphine appears to be much better than traditional approaches, such as gradual reduction in the dosage or abrupt cessation of heroin use without taking any drugs. Continued study of buprenorphine, is strongly recommended for the treatment of dependency to opioids especially heroin.

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References: