

Received: 11.8.2009
Accepted: 6.11.2009

Comparing Symptoms of Withdrawal, Rapid Detoxification and Detoxification with Clonidine in Drug Dependent Patients

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Abstract

Background: Considering the fear of drug addicts from hangover symptoms and the costs of withdrawal treatment and their importance in deciding to withdraw, it is helpful to identify various ways of withdrawal and their effects. This study investigated the withdrawal symptoms of two methods of detoxification with clonidine and rapid detoxification of clonidine with naltrexone.

Methods: This was a clinical trial study. Patients referred to Shahid Beheshti hospital for narcotic addiction treatment were randomly divided into two groups. Group matching was done based on entry and excluding criteria. Data were collected using a demographic questionnaire including questions on the drug abuse and the consumption method, and a questionnaire on the symptoms of opioid withdrawal.

Findings: Restlessness, vomiting, feeling sick and significant decrease of diastolic blood pressure was higher in rapid detoxification method group. However, considering background variables, Spearman correlation coefficient showed significant relationship just for lacrimation. Temptation for drug consumption was lower for heavy abusers in rapid detoxification method and in general, those who had higher amount of consumption and were treated by rapid detoxification, experienced less temptation for consumption.

Conclusion: Rapid detoxification can be the first level treatment for heavy abusers, because it reduces the temptation for drug consumption and has shorter hospitalization and, as a result, has lower cost.

Key words: **Drug abuse, Rapid detoxification, Clonidine detoxification, Withdrawal symptoms.**

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Introduction

Drug abuse is one of the main health problems in Iran and can cause severe and deep physical, psychological and social harms. One of the goals of detoxification from drug dependency is to ease or remove the pain of withdrawal during the treatment, so that the treatment is safe and can help the patient in overcoming drug abuse.¹ Drug dependency symptoms are created by stopping consumption or using drug antagonists.^{2,3} Based on the kind of narcotic, symptoms begin after a few hours to a few days of consumption cut. Usually, narcotics with short term-effect have severe, but short term symptoms and those with longer-term effect create mild but long term symptoms.⁴

Various methods of treating withdrawal symptoms due to detoxification are recommended, such as replacing heroin with a narcotic with long-term effect like methadone⁵ or using LAAM (levoacetylmetalhadal) and bupronorphine; of course, LAAM is not currently available in Iran.^{6,7}

Detoxification with above mentioned methods is associated with laws and regulations of supplying them, which should be considered as a limitation.

Non-opioid treatment approaches to detoxification of opioid drugs such as clonidine were used in past years.^{8,9} These days, rapid detoxification and even ultra rapid detoxification are considered as detoxification with opioid in spite of their limitations. Some researchers have discussed the superiority of rapid method to detoxification with clonidine.^{10,11}

For rapid and ultra rapid detoxification, naloxan, an opioid antagonist with short term effects, is used. This method leads to a severe withdrawal syndrome that can be treated by constant prescription of clonidine and benzodiazepine. In detoxification with clonidine, naltrexone is prescribed for at least 5 days in case of drugs with short term effects and 10 days for drugs with long term effects such as methadone. Therefore, in rapid detoxification, detoxification is completed within 48 to 72 hours, while it is 7 to 10 days in other methods.¹² Rapid detoxification has been used even at home without complications and problems.¹³

Ultra rapid detoxification with general anesthesia is also reported in those who have not been able to complete their detoxification with other methods or those who has severe withdrawal symptoms.¹⁴ Considering the legal procedure of

using methadone and bupronorphine in one hand and the risk factors of ultra rapid detoxification methods on the other hand, this study investigated the treatment of withdrawal symptoms in the two methods of detoxification with clonidine and naltrexone plus clonidine that do not have the above problems.

Methods

This was a clinical trial study. Participants included patients who referred to Shahid Beheshti hospital for narcotic addiction treatment. The including and excluding criteria were applied (patients should not have any psychological or physical disorder and should not leave the hospital before all detoxification symptoms are disappeared). They also provided a written consent. Patients were randomly divided into two groups and group matching was based on age, the kind of narcotic they used, the method of consumption and the amount.

After necessary clinical and paraclinical tests and considering the medical and psychiatric history of patients, if there was no problem with detoxification with clonidine or clonidine plus naltrexone, the patient would be assigned to one of the groups. For each group, 30 patients and 30 questionnaires were filled.

Data were collected using a researcher made questionnaire including questions on age, career, education, number of siblings, birth rank, type of addiction, consumption method, amount of consumption, length of addiction and trying withdrawal. The withdrawal symptoms were assessed using St George's Hospital questionnaire for narcotic withdrawal symptoms. This questionnaire includes 13 signs and 12 symptoms.¹⁴ The questionnaires were completed by a trained medical intern who was not aware of the patients' treatment method when completing questionnaire.

Signs and symptoms were checked and scored by an intern through daily clinical examination and interview. If there was no sign or symptom, the score was 0. In case of mild symptoms or lack of evidence about the existence of symptoms the score was I and obvious symptoms had score II. Signs included yawning, lacrimation, running nose, sweating, shaking, piloerection, restlessness, pupil size, lack of appetite, vomiting, diarrhea, sleeplessness, and trying to get drugs. Symptoms included muscle ache, tachycardia, sneezing, feeling pins and needles in body organs, feeling

Table 1. Frequency distribution and percentage of background variables in the two treatment groups

Variable		Type of treatment			
		Rapid		Traditional	
		frequency	percentage	frequency	percentage
Marital status	Married	13	43.3	13	43.3
	Single	17	56.7	17	56.7
Education	Primary school	2	6.7	4	13.8
	Middle school	8	26.7	15	51.7
	High school	11	36.7	9	31
	Higher education	9	30	1	3.4
Number of siblings	2 <	1	33.3	5	16.7
	5-2	18	60	11	36.7
	5 >	11	36.7	14	46.7
Birth rank	First	6	20	6	20
	Other	24	80	24	80
Type of drug	Opium	14	46.7	14	46.7
	Heroin	5	16.7	5	16.7
	Opium and heroin	5	16.7	5	16.7
	Opium and shire	3	10	3	10
	Shire	3	10	3	10
Consumption method	Eating	8	26.7	8	26.7
	Smoking	16	53.3	16	53.3
	Eating and smoking	6	20	6	20
Job status	Unemployed	11	36.7	14	46.7
	Employed	19	63.3	16	53.3
Years of consumption	1 <	1	3.3	-	-
	1 >	29	96.7	30	100
History of withdrawal	Yes	23	76.7	24	80
	No	7	23.3	6	20

cold and hot, muscle cramp, excitability, and tendency to take medicine.

This study was done under the research ethics.

Results

The mean age of participants was 28.32 ± 5.46 years. The youngest was 20 year old and the oldest was 42 years old. The frequency of background variables is presented in table 1. Most of the participants were from crowded families. 20% were the first children in the family and 40.7% were unemployed. As mentioned before, during the study, group matching was tried by recruiting more patients. To assure group match, independ-

ent sample t-test was used, which showed no significant difference between the two groups (table 2). Just one of the participants has addiction history of less than one year. 76.6% of participants in rapid detoxification group and 80% of clonidine group had a history of detoxification.

The mean score of 10 days observing signs and symptoms for clonidine group and 5 days for rapid detoxification group was compared using independent sample t-test. Restlessness, vomiting, feeling sick, systolic and diastolic blood pressure was significantly different between the two groups. But there was no significant difference in other signs (Table 3).

Table 2. Comparing the mean age and amount of taken narcotics in the two treatment group

variable	Treatment method	frequency	mean	Standard deviation	results
Age	Rapid	30	28.4	5.77	t = 0.117
Year	Traditional	30	28.2	5.23	p > 0.9
Amount	Rapid	30	3.2	1.77	t = 0.7
Gram	Traditional	30	3.3	8.1	p > 0.9

Table 3. The mean of signs and symptoms of withdrawal during treatment period in the two groups

Variable	Treatment method				P-value
	Rapid		Traditional		
	mean	Standard deviation	mean	Standard deviation	
Yawning	1.5	0.4	1.42	0.46	0.475
Lacrimation	1.11	0.49	0.97	0.54	0.29
Running nose	0.91	0.56	0.74	0.46	0.195
Sweating	0.7	0.59	0.69	0.57	0.947
Shaking	0.72	0.61	0.68	0.59	0.818
Piloerection (sign)	0.41	0.47	0.52	0.47	0.397
Restlessness	1.19	0.54	0.91	0.52	0.047
Lack of appetite	0.74	0.54	0.51	0.45	0.07
Vomiting	0.32	0.43	0.06	0.18	0.004
Diarrhea	0.57	0.64	0.38	0.37	0.159
Sleeplessness	0.97	0.7	0.74	0.63	0.187
Temptation to take drugs	0.45	0.66	0.19	0.32	0.057
Muscle ache	0.53	0.6	0.83	0.56	0.53
Heart beat	0.41	0.42	0.37	0.41	0.71
Sneezing	0.9	0.55	0.69	0.48	0.122
Pins and needles	0.73	0.61	0.61	0.47	0.411
Feeling cold and hot	0.98	0.68	0.87	0.58	0.489
Piloerection (symptom)	0.53	0.54	0.4	0.33	0.292
Feeling sick	1.03	0.5	0.67	0.38	0.002
Stomach ache	0.75	0.6	0.62	0.49	0.339
Musculoskeletal pain	1.06	0.63	1.23	0.51	0.265
Tremor and muscle cramp	0.65	0.67	0.56	0.54	0.556
Excitability	0.62	0.83	0.63	0.55	0.971
Drug seeking behavior	0.36	0.49	0.18	0.27	0.081
Systolic blood pressure	114	6.26	100.06	5.81	0.000
Diastolic blood pressure	72	6.34	67.63	5.76	0.002
Heart beat	84.67	8.21	87.03	4.71	0.179

Discussion

Comparing the groups, restlessness, feeling sick, systolic, and diastolic blood pressure were significantly different. Previous studies also reported the severity of withdrawal symptoms.¹ This can be explained considering the consumption of antagonist in one hand and higher consumption of clonidine on the other hand. Moreover, the period of detoxification is also shorter both in the present study and in other studies.¹²

In other cases, there was no significant difference. The severity of symptoms was easily controllable by tranquilizer. Since no significant difference was seen between the type of drug and detoxification method, there is no superiority between these two methods. To our knowledge, there are no other studies on the topic to compare.

In the rapid method group, variables of temptation to take drugs and piloerection had a negative significant relation with the amount of drugs, so that with more amount of consumption the severity of symptoms was decreased. In the only clonidine group, the mean severity of lacrimation, pins and needles, piloerection and tendency to take drugs had a positive significant relation with the amount of drugs, so that the more drugs, the higher the mean severity of

these symptoms. It can be concluded that for higher amount of drug consumption, the rapid detoxification method is superior; because it decreases the temptation and sustains withdrawal. However, in long term treatment method does not have much effect on portent of sustainable withdrawal.¹³

Considering the results of the study in one hand, and the short term hospitalization of patients on the other hand, which reduces the costs and the consumption of narcotics in hospital wards, this treatment method can be a suitable one for patients who are selected for detoxification.

Limitations: Since patients were different, it was possible for them and for other personnel to find out about the treatment method. Also, other methods of detoxification such as bupronorphine and methadone were not compared.

Conflict of interest: The Authors have no conflict of interest.

Acknowledgment

Thanks go to the personnel of third department of the Shahid Beheshti Hospital who cooperated with the researchers during the study.

References

1. Galanter M, Kleber H. The American psychiatric press textbook of substance abuse treatment. 1st ed. Washington D.C: American Psychiatric Publishing; 1994. p. 1407-2411, 2352-6.
2. O'Connor PG, Selwyn PA, Schottenfeld RS. Medical care for injection-drug users with human immunodeficiency virus infection. *N Engl J Med* 1994; 331(7): 450-9.
3. Kosten TR, McCance E. A review of pharmacotherapies for substance abuse. *American Journal on Addictions* 1996; 5(Suppl 1): S30-S37.
4. Sadock BJ, Sadock VA. Kaplan and Sadock's synopsis of psychiatry: Behavioral Sciences / Clinical Psychiatry. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2007.
5. Cooper JR. Including narcotic addiction treatment in an office-based practice. *JAMA* 1995; 273(20): 1619-20.
6. Lowinson JH, Ruiz P, Millman RB, Langrod JG. Substance abuse: A comprehensive textbook. 3rd ed. Philadelphia: Lippincott Williams & Wilkins; 1997. p. 10-20, 115-30, 158-80, 460-540.
7. O'Connor PG, Carroll KM, Shi JM, Schottenfeld RS, Kosten TR, Rounsaville BJ. Three methods of opioid detoxification in a primary care setting. A randomized trial. *Ann Intern Med* 1997; 127(7): 526-30.
8. O'Connor PG, Waugh ME, Carroll KM, Rounsaville BJ, Diagkogiannis IA, Schottenfeld RS. Primary care-based ambulatory opioid detoxification: the results of a clinical trial. *J Gen Intern Med* 1995; 10(5): 255-60.
9. Riordan CE, Kleber HD. Rapid opiate detoxification with clonidine and naloxone. *Lancet* 1980; 1(8177): 1079-80.
10. O'Connor PG, Kosten TR. Rapid and ultrarapid opioid detoxification techniques. *JAMA* 1998; 279(3): 229-34.
11. van Dorp EL, Yassen A, Dahan A. Naloxone treatment in opioid addiction: the risks and benefits. *Expert Opin Drug Saf* 2007; 6(2): 125-32.
12. Hensel M, Kox WJ. Safety, efficacy, and long-term results of a modified version of rapid opiate detoxification under general anaesthesia: a prospective study in methadone, heroin, codeine and morphine addicts. *Acta Anaesthesiol Scand* 2000; 44(3): 326-33.
13. Carreno JE, Bobes J, Brewer C, Alvarez CE, San Narciso GI, Bascaran MT, et al. 24-Hour opiate detoxification and antagonist induction at home--the 'Asturian method': a report on 1368 procedures. *Addict Biol* 2002; 7(2): 243-50.
14. Ghodse, AH. *Drugs and Addictive Behaviour: A Guide to Treatment*. 2nd ed. Oxford: Wiley-Blackwell; 1995.

مقایسه علائم و نشانه‌های بازگیری، سم‌زدایی سریع و سم‌زدایی با کلونیدین در بیماران وابسته به مواد مخدر

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تاریخ دریافت: ۸۸/۵/۲۰

تاریخ پذیرش: ۸۸/۶/۱۵

چکیده

با توجه به ترس بیماران معتاد به مواد مخدر از علائم خماری و نیز هزینه‌های درمانی بازگیری و اهمیت آن در تصمیم‌گیری برای ترک مواد مخدر، شناخت و تأثیر شیوه‌های مختلف ترک می‌تواند کمک کننده باشد. در این مطالعه، دو روش سم‌زدایی با کلونیدین و کلونیدین با نالترکسون (سم‌زدایی سریع) از نظر علائم و نشانه‌های بازگیری مورد بررسی قرار گرفت.

در این کار آزمایشی بالینی (Clinical Trials)، شرکت‌کنندگان در مطالعه افرادی بودند که به منظور ترک مواد مخدر به بیمارستان شهید بهشتی مراجعه کرده، به صورت تصادفی در دو گروه قرار گرفتند. جور کردن گروهی (Group matching) با توجه به معیارهای ورود و خروج انجام شد. در این مطالعه، پرسشنامه دموگرافیک که شامل چگونگی و انواع مصرف نیز بود و پرسشنامه علائم و نشانه‌های بازگیری مواد اپیوئیدی مورد استفاده قرار گرفت.

بی‌قراری، استفراغ، احساس ناخوشی، کاهش فشار خون دیاستولیک به صورت معنی‌داری در گروه سم‌زدایی با روش سریع بیشتر بود؛ ولی با توجه به این که این متغیرها زمینه‌ای بودند، پس از ارزیابی با آزمون همبستگی Spearman فقط در مورد اشک ریزش (Lacrimation) رابطه معنی‌دار وجود داشت. وسوسه مصرف مواد در مصرف‌کنندگان شدیدتر مواد مخدر در روش سم‌زدایی سریع کمتر بود؛ به هر صورت کسانی که مقدار مصرف زیادتری داشتند و با روش سریع سم‌زدایی شدند، وسوسه کمتری برای مصرف مواد داشتند.

سم‌زدایی سریع با توجه به کاهش اشتیاق به مصرف مواد و کمتر شدن طول مدت بستری می‌تواند به عنوان خط اول درمان در معتادانی که مصرف زیاد دارند، مفید و مقرون به صرفه باشد.

مواد مخدر، سم‌زدایی سریع، سم‌زدایی کلونیدین، علائم و نشانه‌های ترک.

مقدمه:

روش‌ها:

یافته‌ها:

نتیجه‌گیری:

واژگان کلیدی:

تعداد صفحات: ۶

تعداد جدول‌ها: ۳

تعداد نمودارها: -

تعداد منابع: ۱۴

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