

URD and Severity of Withdrawal Symptoms

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Abstract: Traditional methods of opioid detoxification: ion with opioid agonist such as methadone or non-opioid drugs such as clonidine hydrochloride involve relatively long processes compared to rapid or ultra rapid detoxification. Using new methods, clients are detoxified in a shorter period of time with less relapse rate and they don't experience withdrawal symptoms. This is a clinical analytic outcome study, in which opiate addicts voluntarily enrolled in URD method. The procedure has been done in operating room for addicts who had no laboratory or physical contraindication for URD. 153 opioid addict persons were detoxified through ultra rapid detoxification method under general anesthesia with naloxone. During 4 hours under general anesthesia detoxification was done through IV drip of naloxone. Withdrawal symptoms were rated by a standard questionnaire (subjective opiate withdrawal scales, SOWS) 12 hours after URD. Collected data was analyzed using SPSS 11 software. There was no correlation between duration of opiate use, usual opiate dose, or the type of opiate being used (heroin, opium and opium juice) with severity of symptoms. The mean severity of symptom was 4.92 ± 4.14 while the total score of SOWS could be in the range of 0-64. These results indicate that the addicts almost did not experience withdrawal symptoms. Cardiovascular changes during the detoxification were not significant. Ultra rapid detoxification compared to traditional methods is safe and suitable for individuals who are afraid of severity of withdrawal symptoms.

Key words: URD • opioid withdrawal symptoms • severity

INTRODUCTION

Appearance of withdrawal symptoms when opioid drug is not used or opioid antagonist is used is indicative of opioid addiction [1, 2].

The first step in management of individual's addiction is control of withdrawal symptoms [3, 4]. In traditional methods, substituting a long acting opioid, such as, methadone with a short acting drug, such as, heroin and tapering of long acting drug was the process of detoxification [1, 5].

But in recent years non-opioid drugs such as clonidine was also used as a detoxification method [6-8].

The traditional methods of detoxification involve long processes and addicts are usually anxious and fearful of severity of withdrawal symptoms. They may also relapse during detoxification.

The strategy of using opioid antagonist for detoxification was described for the first time in 1970 [1].

In rapid detoxification, withdrawal syndrome is precipitated by using opioid antagonist in a very short period of time (5-8 hours) [9], the patient is maintained in

abstinence using Naltrexone and the risk of relapse is less than other methods [10].

In ultra rapid detoxification, the patient is detoxified under general anesthesia [11, 12].

So the patient does not experience withdrawal symptoms specially muscle and bone pain.

Therefore, clients are more motivated to use ultra rapid detoxification than other methods.

MATERIALS AND METHODS

The sample in this clinical analytic outcome study consisted of 153 opioid addicts who had chosen URD as their method of detoxification. Type of drug, amount of daily use, duration of addiction, history of detoxification and demographic data were collected through a questionnaire in an interview with the patient. After clinical examination and Para clinical work up including CXR, EEG, CBC, BUN electrolytes and L.F.T., If the patient was not in Grade 3 of ASA (American Society of Anesthesiology), he/she was scheduled for URD through general anesthesia.

During 4-6 hours of general anesthesia naloxone was being injected intravenously up to 2 mg h⁻¹ based on the type of opiate being used, usual opiate dose and withdrawal symptoms such as size of pupil, piloerection and gastric secretion. Function of cardiovascular and respiratory system was monitored with ECG pulse oximetry and capnography. Blood pressure and heart rate were monitored every 15 minutes. NG Tube and Foley catheter were used for each patient to control the amount of gastric secretion and renal function. At the end of detoxification if the challenge test result was negative, anesthesia was discontinued and the patient was transferred to ICU. Severity of withdrawal symptoms were rated by the physician 12 hours after emergence from anesthesia using SOWS questionnaire. Each of the 16 items on the questionnaire had a rating scale from mild to very severe. Total score of severity could be in the range 0-64. Based on the severity of symptoms, non-opioid analgesics and/or psychotropic medication were prescribed for each patient.

Collected data were analyzed through SPSS 11 software.

RESULTS

In this study, 153 addicts were detoxified through URD, of which 98% were male and 90.2% were married. Considering educational status, 20.3% had primary school, 30.7% middle school, 34% high school and 15% collage level education. The mean age was 35.3±7.5 with a spectrum of 20-62 years.

The average duration of substance abuse was 6.86±4.8 years.

26.8% of the clients were detoxified for the first time, 37.3% for the second time and 35.4% for the third or more times.

The mean age was 32.7±6.4 in heroin abusers, 33±5.7 in poly opiate substance abusers and 35.4±7.7 in opiate resin abusers.

The average amount of gastric secretion was 1258.3±499.4 cm² which was not related to the type of opiate being abused.

Considering blood pressure, 36.6% of individual's blood pressure was in the range of 40-140 mmhg, 24.2% developed hypotension, 35.3% developed hypertension and in 3.9% blood pressure was variable.

The heart rate, in 75.8% of the cases, was in the normal range (60-120), 11% developed tachycardia, 12.4% developed bradycardia and in 7%, the heart rate was variable.

Severity of withdrawal symptoms could have been in the range of 0-64 but in this study the minimum score was 0 and the maximum score was 19. Patients were classified in to 3 groups, excellent detoxification (0-2) good detoxification (3-6) and fair detoxification (7-19). Most of opium addicts were detoxified excellently, but most of the polyopiate substance abusers were classified in fair detoxification group (Table 1).

The SOWS score of IV abusers and substance abusers who were referred for the third time or more were less than the other groups (Table 2).

Table 1: Distribution of success rate status in URD based on the kind of used drug

Kind of drug	Success rate scale							
	Total		Fair		Good		Excellent	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Opium	44	54/3	22	27/2	15	18/5	81	
Opium Resin	11	33/3	16	48/5	6	18/2	33	
Heroin	7	38/9	8	44/4	3	16/7	18	
Poly opiate drug	5	23/8	9	42/9	7	33/3	21	
Total	67	43/8	55	35/9	31	20/3	153	100

p value = (0.095)

Table 2: Distribution of success rate status in URD based on the style of drug abuse

Style of drug abuse	Success rate scale							
	Total		Fair		Good		Excellent	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Smoke	42	44/2	31	32/6	22	23/2	95	
Oral	18	39/1	21	45/7	7	15/2	46	
IV abuse	7	58/3	3	25	2	16/7	12	

p value = 0.44

Table 3: Distribution of success rate status in URD based on duration of drug abuse

Duration of drug abuse	Success rate scale							
	Total		Fair		Good		Excellent	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than 10 years	38	37/6	37	36/6	26	25/7	101	
More than 10 years	29	55/8	18	34/6	5	9/6	52	

p value = 0.03

Persons who were addict for more than 10 years or their age was more than 40, were detoxified more easily.

Clients who had normal systolic blood pressure or normal heart rate detoxified more easily.

Educated, single or female addicts were detoxified with more difficulty.

Correlations of other variables were not significant statistically. The score of severity of withdrawal symptoms was directly related to the usual dose of abused substance and inversely related to the duration of addiction (Table 3).

DISCUSSION

One of the main objectives of detoxification under general anesthesia is decreasing the severity of withdrawal symptoms or abolishing them and yet not becoming physically dependent on any of other substances [13].

Since URD prospective study involving a control group is rare, the effectiveness of this method is not clear. Evaluation of severity of withdrawal symptoms through a standardized questionnaire showed that there were no severe withdrawal symptoms in clients who used ultra rapid detoxification method. During the first day after detoxification, mild withdrawal symptoms were reported, especially if Naltrexon was used.

Sherbaum and his Colleagues reported similar results in their study [14, 15].

In heroin abusers, the average score of severity of symptoms was higher than the average score in other groups. This may be due to pharmacokinetic properties of this drug.

Contrary to barbiturates, benzodiazepines and alcohol detoxification, there is no high risk of mortality in opiate detoxification [16]. But, when opiate antagonist is used under general anesthesia for opiate detoxification, there is a risk of pulmonary edema, cardiovascular dysfunction and aspiration which have been reported in the literature [17-20].

These consequences are more due to not using intubations, high doses of anesthetic or opiate antagonist drugs [20].

Kienbaum and his colleagues have reported significant cardiovascular system hyperactivity with intravenous injection of naloxone even in induction of anesthesia with barbiturates [21]. In this study, some patients developed cardiovascular dysfunction including PAC but rarely PAC and junction rhythm. Arrhythmias occurred more during induction or during early phase of anesthesia. But, using proper medication, most of arrhythmias improved.

Management of arterial hypoxemia, hypercarbia, hypertension, hypercalemia and sympathetic over activity were the first step in managing PVC. If arrhythmia persisted, lidocain 1 mg kg⁻¹ was administered. PAC and Junction rhythm were corrected almost always using inotropic agents.

Deepening anesthesia was the first step taken for patients who developed hypertension following injection of naloxone. If the situation was not corrected, proper antihypertensive medication was given.

Almost all cardiovascular consequences following naloxone injection were similar to what occurred following induction of anesthesia with barbiturates [22].

Considering long term efficacy of URD method, there are few reports in literature. Rabinowitz reported that 57% of 113 patients who were detoxified by this method were in abstinence after 12 months; and in Brewer study, 76% of 510 addicts were in abstinence after 4 months [23, 24].

Because of cultural, ethical limitations, patients in this study were not followed up.

CONCLUSIONS

Ultra rapid detoxification is almost a safe method for opiate abusers who are afraid of or are not able to tolerate withdrawal symptoms. According to biopsychosocial approach, since addiction is a multifactor problem, other non-drug therapeutic modalities such as group therapy,

family therapy and cognitive behavior therapy have to be considered in management of addiction.

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