

ORIGINAL RESEARCH

Analgesia and Addiction in Emergency Department Patients with Acute Pain Exacerbations

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chronic pain, analgesia, addiction, narcotics, DAST-20, oligoanalgesia

ABSTRACT

Introduction: There is ongoing controversy regarding the appropriate use of narcotic analgesia for patients presenting frequently to the emergency department (ED) with subjective acute exacerbations of pain. **“Are we treating pain or enabling addiction?”** **Objectives:** To determine whether the presence of specific factors could be used to identify adults complaining of acute exacerbations of pain for suspected drug

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- Decimals between zero and one should be presented as 0.23, 0.05, etc., not .23 or .05.
- The signs =, >, and < should not have spaces around them: p<0.05, not p < 0.05.
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Adhering to these guidelines will greatly facilitate the review process, and is much appreciated. Thank you very much.

addiction, to estimate the percentage of drug addicted patients, to assess the physicians' ability to detect drug addiction and to evaluate interrater reliability. **Methods:** A Drug Abuse Screening Test (DAST-20) was administered to 76 ED patients who presented with acute exacerbations of pain and either multiple ED visits for similar pain complaints, specific narcotic requests, or "allergies" to non-narcotics. The DAST-20 was also administered to 74 age-matched controls. Treating ED physicians rated their suspicion for drug addiction using a visual analog scale (VAS). **Results:** The overall estimation of drug addiction based on the DAST-20 survey was 17.3% (26/150). Twenty-one percent (16/76) of the analgesia subjects and 13.5% (10/74) of the control subjects scored positive for drug addiction as measured by the DAST-20. Of the analgesia subjects with positive DAST-20 scores for drug addiction, 43.8% (7/16) had multiple ED visits, 43.8% (7/16) requested specific narcotics and 6.3% (1/16) reported "allergies" to non-narcotics. There was no correlation between the VAS scores and the DAST-20 scores. There was a significant correlation between resident and attending VAS scores for their suspicion for drug addiction. **Conclusion:** There exists a clinically significant drug addiction problem among ED patients presenting with acute exacerbations of pain and among low-acuity patients who do not present to the ED for pain management.

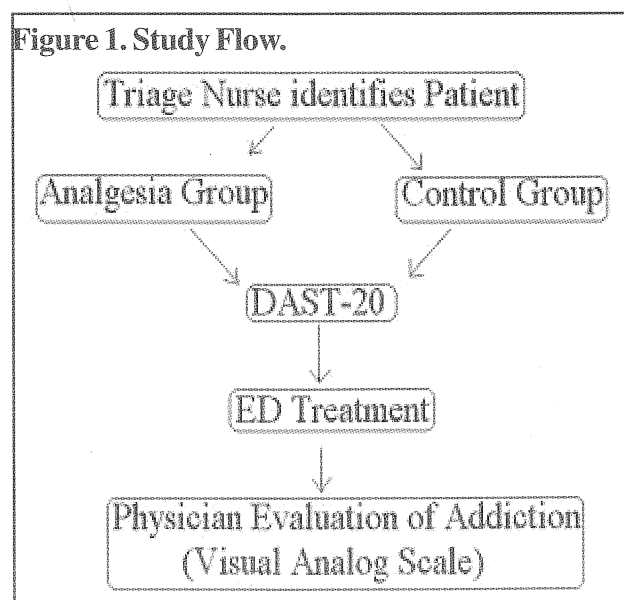
INTRODUCTION

Appropriate pain management is a topic of current debate. There is ongoing controversy regarding the proper use of narcotic analgesia for patients presenting to the emergency department with subjective acute exacerbations of pain.¹⁻¹¹ There are few scientific studies that investigate the actual prevalence of addiction in patients frequently requiring analgesia in the emergency department.¹²⁻¹⁴ More than 50 million Americans suffer from chronic pain that requires narcotics for pain relief.¹⁵ In 1998, 1.6 million Americans abused prescription pain relievers.² According to the National Institute of Drug Abuse, there are over 4 million adults abusing psychoactive prescription medication for nonmedical reasons.¹⁶

We investigated whether the presence of specific factors could be used to identify adults complaining of acute exacerbations of pain for suspected drug addiction. Our other objectives were to estimate the percentage of drug addicted patients, to assess the physicians' ability to detect drug addiction and to evaluate inter-rater reliability.

MATERIALS AND METHODS

All adult patients complaining of an acute exacerbation of pain who presented to the emergency department (ED) were voluntarily recruited for this survey study, as illustrated by the flow chart in Figure 1. The ED is a university-based level I trauma center, with an accredited emergency medicine residency program, that treats more than 45,000 patients annually. The triage nurse identified potential subjects for the survey study with the following inclusion criteria: (a) specific narcotic requests, (b) "allergies" to non-narcotic analgesics, or (c) 2 or more prior ED visits for similar pain complaints within the past 6 months. Exclusion criteria included any objective pathological or anatomic disease, such as neoplasia, acute trauma, toxic exposure, infection, fracture, burn, inflammation, ischemia, infarct, peritonitis, hematologic disorder, or specific rheumatologic, endocrine or connective tissue disease, or any life-threatening condition. Patients in extremis were excluded, as were minors, prisoners, pregnant patients and the mentally impaired. For each analgesia subject, an age-matched control was enrolled



via the next low-acuity patient, triaged of the same sex and within 5 years of age.

Consenting subjects completed the self-administered Drug Abuse Screening Test (DAST-20) distributed by the research personnel from the Emergency Medicine Research Associates Program (EMRAP), see Figure 2. The DAST-20 is a previously validated survey tool that measures drug addiction via 20 yes/no questions, exclusive of alcohol.^{17,18} This measurement tool has a specificity of 92%, sensitivity of 71%, positive predictive value of 83%, negative predictive value of 85%, and overall accuracy of 84%, as reported by Skinner.¹⁸ These diagnostic values pertain to a DAST-20 cutoff score of 10 which meets the Diagnostic and Statistical Manual of Mental Disorders-Third Edition (DSM-III) criteria for drug addiction.^{17,18} We used this same cutoff value. Subjects were assured of anonymity and that their DAST-20 scores were blinded from the treating physician. The subjects' ED course was unhindered by the survey.

The treating resident and attending physician assigned a Visual Analog Scale (VAS) score from 0 to 10 as

an estimate for each subject's suspicion for drug addiction. Zero indicated "no addiction risk" and 10 "absolutely certain addiction." These VAS scores were later correlated anonymously to the scores from the DAST-20 in order to assess the ability of the ED physicians to detect drug addiction.

Data were analyzed using STATA 7.0 (Stata Corporation, College Station, TX) and results were reported as counts and percentages with 95% confidence intervals (CI).

The institutional review board at our center approved this study protocol under expedited category, with the requirement for written consent and distribution of patient bill of rights to all enrolled subjects.

RESULTS

The overall estimation of drug addiction among this study population was 17.3% (26/150) as assessed by a DAST-20 score of 10 or greater. Of the 76 analgesia subjects, 21.1% (16/76) scored positive for drug addiction by the DAST-20. Of the 74 control

Figure 2. The Drug Abuse Screening Test (DAST-20)

The following questions concern information about your involvement and abuse of drugs. Drug abuse refers to:

- (1) The use of prescribed or "over-the-counter" drugs in excess of the directions.
- (2) Any non-medical use of drugs.

The questions DO NOT include alcoholic beverages. The DAST does not include alcohol use.

The questions refer to the past 12 months. Carefully read each statement and decide whether your answer is yes or no. Please give the best answer or the answer that is right most of the time. Click on the box for Yes or No.

1. Have you used drugs other than those required for medical reasons? Yes No
2. Have you abused prescription drugs? Yes No
3. Do you abuse more than one drug at a time? Yes No
4. Can you get through the week without using drugs? Yes No
5. Are you always able to stop using drugs when you want to? Yes No
6. Have you had "blackouts" or "flashbacks" as a result of drug use? Yes No
7. Do you ever feel bad or guilty about your drug use? Yes No
8. Does your spouse (or parents) ever complain about your involvement with drugs? Yes No
9. Has drug abuse created problems between you and your spouse or your parents? Yes No
10. Have you lost friends because of your use of drugs? Yes No
11. Have you neglected your family because of your use of drugs? Yes No
12. Have you been in trouble at work because of your use of drugs? Yes No
13. Have you lost a job because of drug abuse? Yes No
14. Have you gotten into fights when under the influence of drugs? Yes No
15. Have you engaged in illegal activities in order to obtain drugs? Yes No
16. Have you been arrested for possession of illegal drugs? Yes No
17. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs? Yes No
18. Have you had medical problems as a result of your drug use? (eg, memory loss, hepatitis, convulsions, etc.) Yes No
19. Have you gone to anyone for help for a drug problem? Yes No
20. Have you been involved in a treatment program especially related to drug use? Yes No

subjects, 13.5% (10/74) scored positive for drug addiction by the DAST-20. We were unable to find a significant difference between the proportions (0.135 and 0.211) of control and analgesia group subjects with DAST-20 scores of 10 or greater. We were unable to detect a clinically relevant difference between the control and analgesia group DAST-20 scores.

Among the sample population in those subjects who presented to the ED with acute exacerbations of pain, 48.7% (37/76) had multiple ED visits, 11.8% (9/76) reported an "allergy" to non-narcotics and 42.1% (32/76) requested specific narcotics for pain control. Thirty-four percent (26/76) of the subjects had multiple ED visits for acute exacerbations of pain and specific narcotic requests.

Positive DAST-20 scores for drug addiction are as follows: (a) 43.8% (7/16) for multiple visits, (b) 43.8% (7/16) for specific narcotic requests, and (c) 6.3% (1/16) for "allergies" to non-narcotics. The majority of patients with a drug addiction problem measured by the DAST-20 were subjects who requested a specific narcotic and those subjects with multiple ED visits for pain control. No single factor or combination of factors was associated with an increased rate of drug addiction as estimated by the DAST-20.

There was no relationship between positive DAST-20 scores for drug addiction and multiple ED visits, specific narcotic requests or "allergies" to non-narcotics ($p=0.574$, 0.293 and 0.976 , respectively).

There was no correlation between the physician index of suspected drug addiction as measured by the VAS and the estimated rate of drug addiction as measured by the DAST-20 ($r=0.033$, $p=0.70$, 95% CI: -0.130 to 0.194).

We were unable to detect differences between sample subjects with DAST-20 scores of less than 10 ($n=60$) and those with DAST-20 scores of 10 or greater ($n=16$) with regard to multiple ED visits for acute pain exacerbations (0.50 and 0.433), "allergies" to non-narcotics (0.133 and 0.063), or subjects requesting specific narcotics (0.417 and 0.438).

DISCUSSION

This is the first prospective study investigating drug addiction among ED patients with acute pain exacerbations. In a recent survey, the majority of physicians reported a great ambivalence concerning controlled drug prescribing: their desire to relieve pain and discomfort along with fear of creating addiction and being investigated by law enforcement authorities.⁹ This dilemma has created much debate regarding the role of proper pain management in less well-defined pain syndromes usually perceived to have psychosocial components, for example myofascial syndromes, lower back pain, toothache or headache without apparent definitive objective findings. Clinicians have sought to treat these types of patients with analgesics. The vast majority of these patients do not become addicted. However, at the same time the clinician is trying to minimize those rare patients who do abuse, divert or become addicted.

The DAST-20 was used in this study as a measurement for drug involvement among ED patients presenting with acute exacerbations of pain. The DAST-20 was developed by Skinner in 1982 to provide a screening device for drug abuse or dependence as defined by DSM-III diagnostic criteria. The study consisted of drug abuse clients at a psychiatric/drug treatment center with a known drug dependency problem. The subjects were pain-free, willing participants in the study seeking care for drug dependency. The data was validated against DSM-III drug abuse/dependency criteria. The DAST-20 is only moderately correlated with denial.¹⁸

This is the first study to use the DAST-20 as a measurement tool for drug addiction in the primary care setting where the patient is presenting with pain complaints and seeking pain control. The DAST-20 may be flawed in that the evaluation is of limited value in a drug dependent person who denies drug use. The DAST-20 survey estimated drug addiction in 17.3% (26/150) of the overall study population, 21.1% (16/76) in the analgesia group and 13.5% (10/74) in the control group. These percentages are clinically relevant, indicating that drug addiction exists among patients that present to the ED for acute exacerbations

of pain, as well as in a subset of low-acuity patients that do not present to the ED for a primary complaint of pain management.

The lack of correlation between the DAST-20 scores and the VAS scores implies that ED physicians are unable to accurately assess drug addiction. However, the attending VAS scores correlated with the sum of the three factors (multiple visits for pain exacerbations, specific narcotic requests and "allergies" to non-narcotics). This suggests that the physician should be aware that patients who present with one or more of these factors may have drug-seeking behaviors.

The number of analgesia subjects that were originally approached for the DAST-20 survey was approximately two times the final sample size. The majority of the control subjects that were approached for the DAST-20 survey participated in the study. Drug-seeking for diversion or addiction is potentially a strong motivation for non-participation. A subject that is truly drug-seeking may be unlikely to admit to that fact even if promised that their admission would not be used "against" them.

The major limitation of this study is the fact that the DAST-20 has not been validated in the ED setting. For the DAST-20 to be a true gold standard it must be validated in the ED setting for the results to be valid and clinically relevant for the estimation of drug addiction.

The second limitation of the study was the sample size. We were underpowered to detect clinically significant differences in drug addiction between the control and analgesia groups. The 39% difference between these two groups for drug addiction (21% vs. 13%) in this study was not clinically significant. By increasing the power (sample size) the type II error would be decreased, thus minimizing the risk of deciding that no effect or difference exists when inadequate numbers have been examined.

A third limitation in this study was sample bias. An inherent weakness of a survey study is that a difference may exist between the subjects who consented to participate and the non-consenters. As a consequence,

the findings may not be generalized to all subjects presenting to the ED with acute exacerbations of pain. Lastly, denial and under-reporting drug involvement would limit the accuracy and reliability of the DAST-20 scores. This could have ultimately affected the statistical analysis and interpretation of our study data.

Many clinicians think that it is more ethical, if a patient claims pain, to err on the side of pain relief. Others believe that the greater danger lies in creating access to drugs for abusers, diverters, or addicts, which may result in harm to themselves or others.^{9,11} Such judgments must be made on a case-by-case basis according to the context and the values of the clinician. If the physician denies pain management, the physician has an ethical duty of involving an addiction professional.¹¹ In a recent survey, nearly 47% of participating physicians reported having difficulty discussing the issue of the proper use of prescribed medications with their patients.¹⁵ Confrontation phobia has been well documented in physicians who have been identified with problematic prescribing patterns, in which the physicians feel acutely uncomfortable with conflict and interpersonal confrontation.^{9,11} Physician fear and avoidance of confrontation plays into the hands of chemically dependent patients.⁹ Newer curricula in medical schools and residency programs have led to an emphasis on the clinical interview and physician-patient relationship building skills with an emphasis on rapport-building techniques.⁹ Furthermore, by increasing physician knowledge about chemical dependence and about chemically dependent patients' abnormal relationships with scheduled drugs, the current practice of under-prescribing controlled drugs for persons with medical conditions requiring analgesia may be increased while decreasing the over-prescribing for those whom are chemically dependent, addicted or who divert.^{9,11}

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Monetary Resident Incentives: Effect on Patient Satisfaction in an Academic Emergency Department

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Keywords

patient satisfaction, emergency department, resident, incentive

ABSTRACT

Patient satisfaction must be a priority in emergency departments (EDs). The care provided by residents forms much of the patient contact in academic EDs. Objective: To determine if monetary incentives for emergency medicine (EM) residents improve patient satisfaction scores on a mailed survey. **Methods:** The incentive program ran for nine months, 1999-2000. Press-Ganey surveys responses from ED patients in 456 hospitals; 124 form a peer group of larger, teaching hospitals. Questions relate to: 1) waiting time, 2) taking the problem seriously, 3) treatment information, 4) home care concerns, 5) doctor's courtesy, and 6) concern with comfort.