

Acupuncture for Cocaine Addiction

Avants SK, Margolin A, Holford TR, Kosten TR. A randomized controlled trial of auricular acupuncture for cocaine dependence. *Arch Intern Med* 2000;160:2305-12.

Study Overview

Objective. To determine whether a standardized auricular acupuncture protocol can reduce cocaine use among addicts in a methadone maintenance program (MMP) who are still using cocaine.

Design. Randomized controlled clinical trial. Analysis was by intention to treat.

Setting and participants. 82 patients were referred to the study from an MMP because of continued cocaine use. Participants had to be at least 18 years of age, on a stable dose of methadone in an MMP, meet DSM-IV criteria for cocaine dependence, and either self-report cocaine use or provide a positive urine toxicology screen within 2 weeks of study selection. Exclusion criteria comprised the following: dependence on any substance other than opiates, cocaine, or nicotine; currently receiving other treatment for cocaine abuse; receiving psychotropics (unless on a stable dose for at least 90 days); acupuncture treatment in the past 30 days; and active psychosis or suicidality.

Randomized patients had a mean age of 37 ± 6 years. Patients were mostly men (57%), mostly white (44%; 38% were African American and 16% were Hispanic), were generally unemployed (90%), and often had less than a high school education (43%). Patients' mean methadone dose during the study was 78 ± 17 mg/day.

Intervention. Patients were randomized to 1 of 3 protocols: auricular acupuncture using 4 points defined by the National Acupuncture Detoxification Association [1], a sham needling procedure carefully designed to avoid points that may have therapeutic benefit, and relaxation therapy without any needling. All treatments were administered by an experienced acupuncturist. Patients receiving the needling interventions were blinded to the type of protocol.

Main outcome measure. Patients were asked to provide urine for toxicology analysis 3 times per week for 8 weeks.

The proportion of positive tests was the primary outcome.

Main results. 15 of 28 patients (retention rate, 46%) randomized to receive acupuncture dropped out of the study after a mean of 5.2 ± 3.0 weeks. Patients receiving sham needling and relaxation therapy completed the study at rates of 63% and 81%; these patients also remained in the study for a longer duration, with respective means of 6.7 ± 2.5 and 7.0 ± 2.3 weeks. Over the 8 weeks of treatment, patients receiving sham needling or relaxation therapy were more likely to produce positive urinalyses (odds ratios [95% confidence interval], 2.40 [1.00 to 5.75] and 3.41 [1.33 to 8.72]).

Conclusion

Auricular acupuncture may help some persons with cocaine addiction reduce their cocaine use.

Commentary

Avants and colleagues created a thoughtfully designed study for a complicated issue. Their control protocols were carefully constructed to provide a baseline for comparison, and several psychosocial parameters (not discussed in the abstract) were thoroughly evaluated to determine if factors other than the direct effects of acupuncture could have accounted for study findings. For example, the authors found no differences among the 3 treatment arms using a Treatment Credibility Scale. Other instruments assessed patients' readiness to change and eagerness for treatment, with no difference among groups. Unfortunately, this study had a drop-out rate among acupuncture patients that far exceeded the other 2 arms. Investigators did extensive statistical analyses to demonstrate that there were no differences in measured variables between completers and drop-outs; however, the authors did not take the most conservative approach—to assume that all scheduled toxicology screens after drop-out were positive. (While patients remained in the study, missed screens were recorded as positive.) Had they done this, it is unlikely that any treatment arm would have shown statistical improvement.

Applications for Clinical Practice

Despite the above problems, this was a well-designed study and to date is the largest to evaluate acupuncture for addiction treatment. Many centers already use acupuncture for this and similar indications [2]. Although evidence from this research is not strong, it does support continuing the practice. Considering the low risk of adverse events and the paucity of treatment options, acupuncture is an attractive modality. A larger study in progress may provide more definitive evidence supporting acupuncture use for drug-addicted patients [3].

References

1. Brumbugh GA. Transformation and recovery: a guide for the design and development of acupuncture-based chemical dependence treatment programs. Santa Barbara (CA): Stillpoint Press; 1995.
2. Culliton PD, Kiresuk TJ. Overview of substance abuse acupuncture treatment research. *J Altern Complement Med* 1996;2:149-59.
3. Margolin A, Avants SK, Kleber HD. Rationale and design of the Cocaine Alternative Treatments Study (CATS): a randomized, controlled trial of acupuncture. *J Altern Complement Med* 1998;4:405-18.

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