

Acupuncture for alcohol withdrawal: A randomized controlled trial.

Trumpler F; Oez S; Stahli P; Brenner HD; Juni P.
Alcohol and Alcoholism 38(4): 369-375, 2003. (30 refs.)
Background and Aims: Previous trials on acupuncture in alcohol addiction were in outpatients and focused on relapse prevention. Rates of dropout were high and interpretation of results difficult. We compared auricular laser and needle acupuncture with sham laser stimulation in reducing the duration of alcohol withdrawal. Methods: Inpatients undergoing alcohol withdrawal were randomly allocated to laser acupuncture (n = 17), needle acupuncture (n = 15) or sham laser stimulation (n = 16). Attempts were made to blind patients, therapists and outcome assessors, but this was not feasible for needle acupuncture. The duration of withdrawal symptoms (as assessed using a nurse-rated scale) was the primary outcome; the duration of sedative prescription was the secondary outcome. Results: Patients randomized to laser and sham laser had identical withdrawal symptom durations (median 4 days). Patients randomized to needle stimulation had a shorter duration of withdrawal symptoms (median 3 days; P = 0.019 versus sham intervention), and tended to have a shorter duration of sedative use, but these differences diminished after adjustment for baseline differences. Conclusions: The data from this pilot trial do not suggest a relevant benefit of auricular laser acupuncture for alcohol withdrawal. A larger trial including adequate sham interventions is needed, however, to reliably determine the effectiveness of any type of auricular acupuncture in this condition. Copyright 2003, Medical Council on Alcoholism.

Acute leukoencephalopathy after inhalation of a single dose of heroin.

Vella S; Kreis R; Lovblad KO; Steinlin M.
Neuropediatrics 34(2): 100-104, 2003. (15 refs.)
We describe extended and repeat magnetic resonance (MR) examinations in the case of a 16-year-old male who developed acute left-sided sensorimotor hemiplegia after a single dose of inhaled heroin. MRI revealed symmetrical hyperintense signals in T-2-weighted images and massive diffusion disorders in the diffusion weighted images predominantly in parieto-occipital subcortical white matter and both ventral globi pallidi with preservation of U fibers and no brain oedema. MR spectroscopy data were compatible with combined

hypoxic and mitochondrial damage resulting in axonal injury without demyelination. Normal values and variations had been obtained from spectra of five age-matched subjects. This is the first reported MR follow-up study of leukoencephalopathy occurring acutely after a first inhaled dose of heroin. We postulate that toxic spongiform leukoencephalopathy in heroin addicts may be the outcome of a complex mechanism directly triggered by heroin and causing mitochondrial as well as hypoxic injury in specific and limited areas of white matter. Copyright 2003, Hippokrates Verlag.

Alcohol affects executive cognitive functioning differentially on the ascending versus descending limb of the blood alcohol concentration curve.

Pihl RO; Paylan SS; Gentes-Hawn A; Hoaken PNS.
Alcoholism: Clinical and Experimental Research 27(5): 773-779, 2003. (29 refs.)

Background: Executive cognitive functioning (ECF), a construct that includes cognitive abilities such as planning, abstract reasoning, and the capacity to govern self-directed behavior, has been recently researched as an antecedent to many forms of psychopathology and has been implicated in alcohol-related aggression. This study was designed to examine whether differential ECF impairments can be noted on the ascending versus the descending limbs of the blood alcohol concentration curve. Methods: Forty-one male university students participated in this study. Twenty-one subjects were given 1.32 ml of 95% alcohol per kilogram of body weight, mixed with orange juice, and the remaining 20 were given a placebo. Participants were randomly assigned to either an ascending or descending blood alcohol group and were tested on six tests of ECF. Subjective mood data were also collected. Results: Intoxicated participants on both limbs demonstrated ECF impairment; the descending-limb group showed greater impairment than their ascending-limb counterparts. Intoxicated subjects were significantly more anxious at baseline than placebo subjects. The introduction of this covariate nullified any significant differences in subjective mood found on either limb of the blood alcohol concentration curve, but ECF impairments remained robust. Conclusions: Results support the conclusion that alcohol negatively affects cognitive performance and has a differential effect on the descending versus the ascending limb of the blood

alcohol concentration curve. The latter finding may have important ramifications relating to the detrimental consequences of alcohol intoxication. Copyright 2003, Research Society on Alcoholism.

Alcohol consumption and HIV disease progression: Are they related?

Samet JH; Horton NJ; Traphagen ET; Lyon SM; Freedberg KA. *Alcoholism: Clinical and Experimental Research* 27(5): 862-867, 2003. (41 refs.)

Background: The relationship between alcohol consumption and HIV disease progression has received limited attention in the era of highly active antiretroviral therapy (HAART). Methods: We assessed CD4 cell count, HIV RNA levels, and alcohol consumption in the past month, defined as none, moderate, and at risk, in 349 HIV-infected people with a history of alcohol problems. We investigated the relationship between alcohol consumption and HIV disease markers CD4 cell count and HIV RNA level, stratified by HAART use, using multivariable regression. Results: No significant differences in CD4 cell count or HIV RNA level were found across the categories of alcohol consumption for patients who were not receiving HAART. However, among patients who were receiving HAART, log HIV RNA levels were significantly higher in those with moderate (2.17 copies/ml) and at-risk (2.73 copies/ml) alcohol use compared with none (1.73 copies/ml; $p=0.006$). CD4 cell counts in those with moderate (368 cells/mul) and at-risk (360 cells/mul) alcohol use were lower than for subjects who reported none (426 cells/mul; $p=0.07$). Conclusion: Among patients who have a history of alcohol problems and are receiving antiretroviral treatment, alcohol consumption was associated with higher HIV RNA levels and lower CD4 counts. No comparable association was found for similar patients who were not receiving HAART. Addressing alcohol use in HIV-infected patients, especially those who are receiving HAART, may have a substantial impact on HIV disease progression. Copyright 2003, Research Society on Alcoholism.

Alcohol intoxication increases allopregnanolone levels in female adolescent humans.

Torres JM; Ortega E. *Neuropsychopharmacology* 28(6): 1207-1209, 2003. (17 refs.)

Teenage drinking is a cause of growing concern in industrialized countries, where almost 35% of alcohol drinkers are under 16 years old. Increased anxiety, irritability, and depression among adolescents may induce them to seek the anxiolytic and rewarding properties of alcohol. We studied the effects of acute alcohol intoxication (AAI) on the plasma levels of progesterone and allopregnanolone in female

adolescents. Blood samples were drawn from female adolescents who arrived at the emergency department. One study group was formed by those who arrived with evident behavioral symptoms of AAI and the other by those arriving for mild trauma (contusions, sprains) after no consumption of alcohol (controls). Our results demonstrate that AAI significantly increases serum progesterone and allopregnanolone levels in both follicular and luteal phases of the ovarian cycle. Since alcohol and allopregnanolone positively modulate gamma-aminobutyric acid type A (GABA(A)) receptors, allopregnanolone may play a major role in the anxiolytic and rewarding effects of alcohol, either directly or by influencing the sensitivity of GABA(A)-receptors to alcohol. 2003, Am. College of Neuropsychopharmacology.

Biphasic stimulant and sedative effects of ethanol: Are children of alcoholics really different?

Erblich J; Earleywine M; Erblich B; Bovbjerg DH. *Addictive Behaviors* 28(6): 1129-1139, 2003. (30 refs.)

Children of alcoholics (COAs) have an increased risk of developing alcoholism themselves. The mechanisms responsible are not yet known. One compelling theory postulates that COAs may have an increased sensitivity to the stimulant effects of alcohol during the ascending limb of the blood alcohol curve combined with a decreased sensitivity to the putatively undesirable sedative effects of the drug during the descending limb, providing a particularly strong motivation to drink. Consistent with this theory, we hypothesized that compared to children of nonalcoholics (CONAs), COAs would display higher levels of ascending limb stimulation and lower levels of descending limb sedation. In the present study, 100 college students, who were either COAs ($n=18$) or CONAs ($n=82$), completed the Biphasic Alcohol Effects Scale (a self-report measure of stimulation and sedation): (1) before consuming 0.85n ml/kg ethanol; (2) during the ascending limb of their BAC, and; (3) during the descending limb of their BAC. Although findings indicated that COAs and CONAs had comparable levels of sedation at each time point, a significant Group-Time interaction ($P<.02$) indicated that COAs had greater increases in stimulation from baseline than CONAs, providing partial support for our hypothesis. Interestingly, simple effects analyses revealed that COAs had lower baseline levels of stimulation but almost identical levels of ascending and descending limb stimulation as CONAs, suggesting that increased sensitivity to alcohol among COAs may be the result of baseline understimulation. Findings suggest that theorized differences between COAs and CONAs may

be due in part to broader trait differences or other nonpharmacological factors. Copyright 2003, Elsevier.

Cocaine and the critical care challenge. (review).

Shanti CM; Lucas CE. *Critical Care Medicine* 31(6): 1851-1859, 2003. (83 refs.)

Objective. Cocaine, which first made its appearance >1,000 yrs ago, is now widely used throughout the world. The physiologic responses to cocaine may cause severe pathologic effects. This review highlights the many critical care challenges resulting from these effects. **Design:** Historical vignettes, epidemiologic factors, modes of preparation and delivery, and the physiologic and pharmacologic effects of these agents are presented. **Setting.** Cocaine causes intense vasoconstriction, which potentially causes damage to all organ systems. Examples of these toxicities are presented. **Patients,** The adverse multisystem responses to cocaine exposure produce organ failure, which challenges diagnostic accuracy and therapeutic intervention. Organ system failure involves the brain, heart, lung, kidneys, gastrointestinal tract, musculature, and other organs. Harmful effects are additive to pre-existing organ dysfunction. **Intervention:** Recognition of associated cocaine injury alerts the physician that organ dysfunction is more likely to be more severe. Such anticipation helps plan for therapy in the critical care setting. **Results and Conclusions.** Cocaine use is an expanding health hazard, despite intense governmental efforts to contain its distribution and use. Recognition of the signs and symptoms of cocaine toxicity help anticipate the subsequent organ dysfunction and implement earlier organ system support. Copyright 2003, Williams & Wilkins.

Cocaine use as a predictor of outcome in aneurysmal subarachnoid hemorrhage.

Howington JU; Kutz SC; Wilding GE; Awasthi D.

Journal of Studies on Alcohol 64(4): 271-275, 2003. (29 refs.)

Object. The goal of this study was to analyze the relationship between cocaine use and outcomes of aneurysmal subarachnoid hemorrhage (SAH). **Methods.** A retrospective review was performed of the medical records of patients with intracranial aneurysms treated at a single institution between January 1996 and December 2001. Only patients who presented with SAH were included in the study. The covariates chosen for the statistical analysis included the following: patient age, sex, and race; systolic and mean arterial blood pressure measurements on hospital admission; Hunt and Hess and Fisher grades; preexistent major systemic disease; and history of alcohol, tobacco, or cocaine use. The Glasgow

Outcome Scale (GOS) was used to standardize outcome and was dichotomized such that a score between 1 and 3 was considered a poor outcome and a score of 4 or 5 was considered a favorable outcome. The records of 151 patients were reviewed and 108 of these presented with aneurysmal SAH. Of these 108 patients, 36 (33.3%) had used cocaine within 24 hours before presentation. A Hunt and Hess grade of IV or V was assigned to 20 (55.6%) of 36 patients who used cocaine, compared with eight (11.1%) of 72 patients who did not; this difference was found to be statistically significant ($p < 0.0001$). Twenty-eight patients (77.8%) in the cocaine user group and 20 patients (27.8%) in the non-cocaine user group experienced clinically significant, angiographically confirmed vasospasm during their hospital course ($p < 0.0001$). Cocaine use was associated with a 2.8-fold greater risk of developing vasospasm (95% confidence interval [CI] 1.86-4.22). A GOS score of 1, 2, or 3 was assigned to 33 patients (91.7%) in the cocaine user group and to 20 patients (27.8%) in the non-cocaine user group ($p < 0.0001$). Cocaine use was associated with a 3.3-fold greater risk of poor outcome (95% CI 2.24-4.85). This association was found to be independent of Hunt and Hess grade as well as of vasospasm. **Conclusions.** Cocaine adversely affects both the presentation of and outcome in patients with aneurysmal SAH who are undergoing treatment for this disease. The vasoactive properties of the drug appear to aggravate the already tenuous situation of SAH and increase both the occurrence and influence of cerebral vasospasm. Statistical analysis demonstrates that cocaine directly affects both presentation and outcome in a significant manner. It is the authors' interpretation of the results of this retrospective review that cocaine use negatively affects outcome to such an extent that it should be considered equal to the presence of a major systemic illness when determining Hunt and Hess grade. Copyright 2003, Alcohol Research Documentation, Inc.

Impact of lifestyle on perioperative smoking cessation and postoperative complication rate.

Moller AM; Pedersen T; Villebro N; Norgaard P.

Preventive Medicine 36(6): 704-709, 2003. (39 refs.)

Objective. The aim was to examine to what extent lifestyle, education, social support, and comorbidity predict the ability of perioperative smoking cessation, and are associated with the development of important postoperative complications. **Design.** A randomized clinical trial. **Setting.** University hospitals in Copenhagen, Denmark, were the settings. **Participants and methods.** One hundred twenty patients scheduled for primary elective hip or knee arthroplasty were randomized to either smoking intervention or standard care. Tobacco

and alcohol consumption, exercise and eating habits, level of education, matrimonial status, and the presence of social support were registered. The data gathered concerned smoking cessation/reduction and severe postoperative morbidity. Results. Men and patients with a good social network were more likely to successfully quit smoking. Smoking intervention successfully reduced the incidence of postoperative complications, as did weekly exercise exceeding 4 h, and having a high education level. Conclusion. This study emphasizes that smoking intervention programs are highly effective in reducing postoperative risks in hip and knee arthroplasty. Copyright 2003, American Health Foundation.

Respiratory health effects of cannabis: Position statement of the Thoracic Society of Australia and New Zealand.

Taylor DR; Hall W. *Internal Medicine Journal* 33(7): 310-313, 2003. (30 refs.)

Both the gaseous and the particulate phases of tobacco and cannabis smoke contain a similar range of harmful chemicals. However, differing patterns of inhalation mean that smoking a 'joint' of cannabis results in exposure to significantly greater amounts of combusted material than with a tobacco cigarette. The histopathological effects of cannabis smoke exposure include changes consistent with acute and chronic bronchitis. Cellular dysplasia has also been observed, suggesting that, like tobacco smoke, cannabis exposure has the potential to cause malignancy. These features are consistent with the clinical presentation. Symptoms of cough and early morning sputum production are common (20-25%) even in young individuals who smoke cannabis alone. Almost all studies indicate that the effects of cannabis and tobacco smoking are additive and independent. Public health education should dispel the myth that cannabis smoking is relatively safe by highlighting that the adverse respiratory effects of smoking cannabis are similar to those of smoking tobacco, even although it remains to be confirmed if cannabis alone leads to the development of chronic lung disease. © 2003, Royal Australian College of Physicians.

In utero cocaine exposure: A thorny mix of science and mythology. (review).

Vidaeff AC; Mastrobattista JM. *American Journal of Perinatology* 20(4): 165-172, 2003. (48 refs.)

Fetal cocaine exposure has proven to be an area of medicine that has generated more heat than light. Although many reports associate cocaine with a variety of isolated structural anomalies, there is no detectable syndromic clustering, raising doubts about a real causal

association or a specific teratogenic action. Potential confounding variables, including the abuse of other drugs, pregnancy deprivations, and socially patterned maternal behaviors, have limited the reliability of observational studies, making it difficult to demonstrate effects solely attributable to cocaine. The clinical expression of in utero cocaine exposure is contextual, critically dependent on the biology/environment interplay. The present work summarizes the fetal structural anomalies that have been associated in the literature with cocaine use during pregnancy, and reviews the putative mechanisms of fetal impairment secondary to cocaine exposure. The final discussion highlights the need for innovative approaches to assure that the myths conjured up about "crack babies" are replaced with reliable, high-quality scientific data. Copyright 2003, Thieme Medical Publishers, Inc.

Does smoking during pregnancy affect sons' sperm counts?

Storgaard L; Bonde JP; Ernst E; Spano M; Andersen CY; Frydenberg M et al. *Epidemiology* 14(3): 278-286, 2003. (42 refs.)

Background. There has been an apparent decline in sperm density during the last 5 decades in Denmark, a country in which women have among the highest rates of smoking in Europe. We examined semen quality and sex hormones in men in relation to their mothers' tobacco smoking during pregnancy. Methods. Mate participants were selected from the population-based Danish Twin Registry and the Danish Civil Registration System as part of a study on hereditary and environmental determinants of semen quality. From November 1999 to May 2000 we collected one fresh semen and blood sample from each of 316 men. Data on prenatal tobacco exposure were obtained for 265 of these men from a questionnaire filled in by their mothers. Results. Adjusting for age, current-smoking status and other factors, sperm density was 48% lower (95% confidence interval = -69% to -11) among sons of mothers who smoked more than 10 cigarettes per day during pregnancy. Total sperm counts and levels of inhibin-B were also reduced among this group, whereas follicular stimulating hormone levels were somewhat higher (16% increase; 95% confidence interval -13% to 54%). These effects were not seen in the lower smoking category (1-10 cigarette's per day). Conclusions. High levels of smoking (>10 cigarettes per day) during pregnancy may be a partial explanation for the apparent secular decline and the geographic differences in sperm counts. Copyright 2003, Epidemiology Resources, Inc.