

ALCOHOL

Fachpresseschau, zusammengestellt und kommentiert von PD Dr. med. Ulrich W. Preuss (Ltd. Oberarzt, Klinik für Psychiatrie und Psychotherapie, Martin-Luther-Universität Halle-Wittenberg):

Aktuelle Veröffentlichungen zu verschiedenen Rubriken:

Editorial: Mein Standpunkt zu aktuellen Forschungsberichten

1. Grundlagenforschung, Genetik, Molekularbiologie
2. Pharmakologie, Zellstoffwechsel
3. Verhaltensneurobiologie, Umweltfaktoren und Konsum
4. Diagnose und Behandlung
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Editorial comment:

A Double-Blind Trial of Gabapentin Versus Lorazepam in the Treatment of Alcohol Withdrawal

Hugh Myrick, Robert Malcolm, Patrick K. Randall, Elizabeth Boyle, Raymond F. Anton, Howard C. Becker, and Carrie L. Randall

Alcoholism: Clinical and Experimental Research
Volume 33 Issue 9, Pages 1582 - 1588

Während Entzugsbehandlungen von Alkohol in der Bundesrepublik Deutschland vorwiegend stationär durchgeführt werden, bevorzugen Ärzte und Gesundheitssysteme anderer Länder den ambulanten Entzug. Dieser erfreut sich hierzulande in verschiedenen Einrichtungen und bei niedergelassenen Ärzten ebenfalls zunehmender Beliebtheit.

Weitere Besonderheiten der Entzugsbehandlung in Deutschland sind der häufige Einsatz von Clomethiazol (Distraneurin). Die übrige Welt, insbesondere die USA, kommen im Vergleich dazu nahezu ausschließlich Benzodiazepine zum Einsatz. Im der Septemerausgabe von „Alcoholism Clinical and Experimental Research“ wird von einer Forschungsgruppe aus South Carolina eine Studie vorgestellt, die den Einsatz des Antiepileptikums Gabapentin zur ambulanten Entzugsbehandlung im Vergleich mit Benzodiazepinen überprüft. Die Autoren weisen bereits zu Beginn des Artikels darauf hin, dass Benzodiazepine (und m.E. auch Clomethiazol) eine Reihe von Nachteilen aufweisen, die eine relative oder gar absolute Kontraindikation für den Einsatz im ambulanten Bereich bedeuten können: Das erhöhte Risiko, neben dem Alkohol auch von der Entzugsmedikation (Benzodiazepine und auch Clomethiazol) abhängig werden zu können, zumal eine Kreuztoleranz zum Alkohol besteht, die sedierende Wirkung der Substanzen, die die Alltagsfunktionen beeinträchtigen können (z.B. Fahrtauglichkeit), mögliche atemdepressive Effekte, mit unterschiedlichen Wirkweisen bei Benzodiazepinen und Clomethiazol und nicht zuletzt auf ein postakut möglicherweise erhöhtes Rückfallrisiko durch die Entzugsbehandlung mit diesen Substanzen, worauf einige Voruntersuchungen hinweisen. Demgegenüber weist, nach Ansicht der Autoren, Gabapentin als Antiepileptikum eine Reihe von Vorteilen auf, u.a. entzugslindernde Eigenschaften in präklinischen Studie, Metabolisierung nicht hepatisch, sondern renal und möglicherweise ein dadurch günstigeres Nebenwirkungsprofil und kein Anhalt auf Knochenmarkstoxizität. Alles dies sind Eigenschaften, die für ein Medikament in der Entzugsbehandlung von häufig chronisch kranken Alkoholabhängigen wünschenswert sind.

In der vorliegenden Studie wurde für einen Zeitraum von 12 Tagen (Akutphase, Tag 1-4: 75 Studienteilnehmer; Postakutphase, Tag 5-12: 68 Studienteilnehmer) in der ambulanten Entzugstherapie doppelblind auf Gabapentin (900mg und 1200g) oder Lorazepam (6mg) randomisiert. Während die höchste Gabapentin Dosis hinsichtlich der Entzugssymptome, erfasst mit einer Entzugsskala (CIWA-Ar), statistisch bessere Ergebnisse als Lorazepam zeigte, war der Verlauf der Entzugssymptome über die Zeit in allen drei Gruppen sehr ähnlich. Allerdings zeigte sich nach der Akutbehandlung (Tag 1-4) eine höhere Rate an Trinkrückfällen bei der mit Lorazepam-behandelten Gruppe, was vorangegangene Studienergebnisse der höheren Rückfälligkeit bei Entzugsbehandlungen mit Benzodiazepinen stützt. Etwas seltsam mutet, bei den bekannten Kontraindikationen, allerdings der häufige Einsatz von Lorazepam in der ambulanten Entzugstherapie von Alkoholabhängigen in dieser Studienklinik an.

Heißt das nun, dass die Ergebnisse der Studie derart aussagekräftig sind signifikant sind, dass Gabapentin zukünftig im ambulanten Entzug eingesetzt werden kann?

Die besten Ergebnisse für die Pharmakotherapie des ambulant durchgeführten Alkoholentzuges liegen bisher für Carbamazepin und Tiapridex vor. Eine Ergänzung durch ein weitere Substanz, etwa Gabapentin, ist sicher wünschenswert, Studien für die Praktikabilität dieses Medikaments für diesen Indikationsbereich (Indikationserweiterung) in ärztliche Praxen und Ambulanzen in Deutschland sind sicherlich noch erforderlich.

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Journals: Addiction, Addiction Biology, Alcohol Alcoholism, Alcoholism Clinical and Experimental Research, Drug and Alcohol Dependence

1. Grundlagenforschung, Genetik, Molekularbiologie

Dopamin als Neurotransmitter wird seit langem mit der Genese von Abhängigkeitserkrankungen allgemein, im Besonderen der Alkohol- und Nikotinabhängigkeit, in Verbindung gebracht. Dieser Beitrag weist auf mögliche Zusammenhänge zwischen genetischen Varianten des Dopamintransporters und dem Beginn des Alkohol oder Nikotinkonsums hin. Der präsynaptische Dopamintransporter hat eine wichtige Funktion bei der Kontrolle der Dopaminkonzentration im synaptischen Spalt.

The interaction between the dopamine transporter gene and age at onset in relation to tobacco and alcohol use among 19-year-olds

Brigitte Schmid , Dorothea Blomeyer , Katja Becker , Jens Treutlein , Ulrich S. Zimmermann , Arlette F. Buchmann , Martin H. Schmidt , Günter Esser , Tobias Banaschewski , Marcella Rietschel & Manfred Laucht
Addiction Biology
Volume 14 Issue 4, Pages 489 - 499

ABSTRACT

Recent evidence suggests that heterogeneity in the age at onset could explain the inconsistent findings of association studies relating the dopamine transporter (*DAT1*) gene with alcohol and nicotine consumption. The aim of this study was to examine interactions between two *DAT1* polymorphisms and different initiation ages with regard to alcohol and tobacco consumption levels and dependence. Two hundred and ninety-one young adults (135 males, 156 females) participating in the Mannheim Study of Children at Risk were genotyped for the 40-bp variable number of tandem repeats (VNTR) and rs27072 polymorphisms of *DAT1*. Age at initiation was assessed at age 15 and 19 years. Information about current alcohol and tobacco consumption was obtained at age 19 years using self-report measures and structured interviews. Results suggest that age at onset of intensive consumption moderated the association of the *DAT1* gene with early adult substance use and dependence, revealing a *DAT1* effect only among individuals homozygous for the 10r allele of the 40-bp VNTR who had started daily smoking or being intoxicated early in life. Equally, carriers of the T allele of the rs27072 polymorphism reporting an early age at first intoxication showed higher current alcohol consumption at age 19 years. In contrast, no interaction between rs27072 and the age at first cigarette with regard to later smoking was observed. These findings provide evidence that the *DAT1* gene interacts with an early heavy or regular drug exposure of the maturing adolescent brain to predict substance (ab)use in young adulthood. Further studies are required to confirm these findings.

Vorangegangene Untersuchungen aus der Grundlagenforschung haben auf die mögliche Rolle des Transkriptionsfaktors Δ Fos-B bei der Entwicklung des Suchtgedächtnisses verwiesen. Offenbar spielt dieser Faktor doch eine etwas indirektere Rolle bei der Genese von Abhängigkeitserkrankungen, als bisher vermutet, wie dieser Beitrag feststellt. Bei Alkoholabhängigen konnte im Vergleich zu Kontrollpersonen in frontalen Regionen des Gehirns immunreaktiv keine Unterschiede dieses Faktors feststellen lassen.

FOSB proteins in the orbitofrontal and dorsolateral prefrontal cortices of human alcoholics

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Addiction Biology

Volume 14 Issue 3, Pages 294 - 297

ABSTRACT

The transcription factor Δ FosB is accumulated in the addiction circuitry, including the orbitofrontal and medial prefrontal cortices of rodents chronically exposed to ethanol or other drugs of abuse, and has been suggested to play a direct role in addiction maintenance. To address this hypothesis in the context of substance dependence in humans, we compared the immunoreactivities of FOSB proteins in the orbitofrontal and dorsolateral prefrontal cortices (OFC and DLPFC respectively) between controls and alcoholics using semiquantitative immunoblotting. In both structures, we detected three forms of FOSB, one of which was Δ FOSB, but in neither case did their immunoreactivities differ between the groups. Our results indicate that the Δ FOSB immunoreactivity in the human brain is very low, and that it is not accumulated in the OFC and DLPFC of human alcoholics, suggesting that it may not be directly involved in addiction maintenance, at least not in ethanol dependence.

Suizidales Verhalten ist häufig bei Abhängigkeitserkrankungen. Allerdings sind die Befunde zum Einfluss einer Reihe genetischer Faktoren, etwa Varianten der Tryptophanhydroxylase (TPH), eher kontrovers. Diese Studie berichtet einen möglichen Zusammenhang von genetischen Varianten der TPH2 mit depressiven Störungen und suizidalen Verhalten bei Alkoholabhängigen, die vor ihrem Suizidversuch keinen Alkohol zu sich führten.

Clinical and Genetic Risk Factors for Suicide under the Influence of Alcohol in a Polish Sample

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Alcohol Alcohol. 2009 44: 437-442;

Abstract

Aims: Despite the large number of suicides that occur with intoxication, little is known about the unique predictors of suicide after alcohol consumption. The goal of this study was to examine clinical and genetic risk factors for alcohol-related suicide. **Methods:** Data on 162 suicide victims were obtained from post-mortem examinations, police and prosecution inquiries, autopsy protocols and available medical records. Four single nucleotide polymorphisms in the central serotonin system and the renin–angiotensin system related genes previously found to be associated with suicide, alcohol dependence or depression were genotyped. **Results:** The strongest predictor of suicide under the influence of alcohol was alcohol dependence (OR = 4.63). Those who did not drink alcohol before suicide were more likely to have a diagnosis of major depressive disorder in their medical record and more often had the TT genotype of the tryptophan hydroxylase 2 gene. **Conclusions:** Suicide under the influence of alcohol is strongly connected with alcohol dependence. The *TPH2* gene may play an important role in suicide vulnerability especially in individuals who did not drink alcohol before suicide.

Varianten des 5-HT1B Rezeptors wurden bereits in mehreren Vorstudien mit dissozialem Verhalten in Verbindung gebracht. Diese Befunde werden durch diesen Beitrag unterstützt, dessen Ergebnisse darauf hindeuten, dass dieser Zusammenhang möglicherweise sowohl zu psychischen Störungen, als auch zu Alkoholabhängigkeit und dissozialen Verhaltensweisen disponiert.

The Relationship Between Serotonin Receptor 1B Polymorphisms A-161T and Alcohol Dependence

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Alcoholism Clinical and Experimental Research, Volume 33, Number 9, September 2009 , pp. 1589-1595(7)

ABSTRACT

Background: Several studies have suggested that the *serotonin receptor 1B* gene (*5HT1B*) may be important in the pathogenesis of alcohol dependence (alcoholism; ALC; AD). We examined whether *5HT1B* gene *A-161T* polymorphisms (rs130058) are a susceptibility factor for total AD and subgroups of AD. We further explored correlation of this *5HT1B* gene variant between anxiety–depression alcoholism (ANX/DEP ALC) and antisocial alcoholism (antisocial ALC) subgroups because of the high comorbidity of anxiety–depression, antisocial personality disorder, and AD.

Methods: We recruited 522 Han Chinese in Taiwan for this study: 322 AD patients and 200 controls. The patient group was recruited primarily from medical teaching hospitals; patients with antisocial alcoholism were recruited from Taiwanese prisons. Individuals with AD were classified into 3 homogeneous clinical subgroups—pure alcoholism (pure ALC), ANX/DEP ALC, and antisocial ALC—using DSM-IV diagnosis. The *5HT1B* gene *A-161T* polymorphism was determined using PCR–RFLP.

Results: No significant differences in genotypic and allelic frequencies were found between controls and the total AD group or between controls and the 3 AD subgroups. However, there were significant differences in the *5HT1B* gene *A-161T* polymorphism at both the genotype and allelic levels between the ANX/DEP ALC and antisocial ALC subgroups.

Conclusions: This study suggests that the *5HT1B* gene *A-161T* polymorphism alone is not a risk factor for increasing susceptibility to either AD or its subtypes. However, *5HT1B* gene *A-161T* polymorphisms might be one of the common genetic factors between the ANX/DEP ALC and antisocial ALC subgroups.

Alkohol tritt gehäuft innerhalb von Familien auf, wobei spezifische genetische Faktoren bisher umstritten sind. Erneut sind genetische Varianten des Dopamintransporters mögliche Kandidaten, die möglicherweise über Generationen hinweg das Abhängigkeitsrisiko vermitteln könnten.

An interaction between DAT1 and having an alcoholic father predicts serious alcohol problems in a sample of males

Jamie Vaske, Kevin M. Beaver, John Paul Wright, Danielle Boisvert, Rebecca Schnupp
Drug and Alcohol Dependence
Volume 104, Issue 1-2, pages 17-22

Abstract

The current study examines whether the dopamine transporter (DAT1) VNTR polymorphism and paternal alcoholism are related to serious alcohol problems. Using data from the National Longitudinal Study of Adolescent Health (Add Health), we found that the DAT1 polymorphism interacted with paternal alcoholism to predict serious alcohol problems among males. Specifically, the 10-repeat allele conferred an increase of alcohol problems only among males who also had an alcoholic father; the 10-repeat allele was unrelated to alcohol problems for males without an alcoholic father. Coefficient tests revealed that this interaction effect was stronger among African-American males. Females who possessed the 9-repeat allele were more likely to report serious alcohol problems, but this effect was not moderated by paternal alcoholism. These analyses suggest that additive and interactive effects of DAT1 and paternal alcoholism may operate differently across genders and races.

2. Pharmakologie, Zellstoffwechsel

Auch Grundlagenforschung fördert wichtige Erkenntnisse zu Tage. Die alkoholinduzierte Hemmung der Speichelsekretion wird in dieser Studie unter dem Einfluss von Endocannabinoiden (Anandamid) bei Wistar-Ratten untersucht. Und im Ergebnis führt die Applikation von Anandamid tatsächlich zur Hemmung der Salivation, was diesem System eine mögliche Rolle bei Alkoholwirkungen zuweist.

Role of the Endocannabinoid System in Ethanol-Induced Inhibition of Salivary Secretion

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Alcohol and Alcoholism Advance Access published on July 9, 2009
Alcohol Alcohol. 2009 44: 443-448;

Abstract

Aim: The aim of the present study was to determine whether the endocannabinoid system could be involved in the ethanol-induced inhibition of salivation in adult male Wistar rats.

Methods: Salivary secretion induced by different concentrations of methacholine, a cholinergic agonist, and the endocannabinoid arachidonoyl ethanolamide (anandamide, AEA) production in the submandibular gland (SMG) were determined in rats after ethanol (3 g/kg) administration by gastric gavage. To study the participation of cannabinod receptors in ethanol action, we evaluated methacholine-induced salivary secretion after ethanol administration when CB1 or CB2 receptors were blocked by intra-SMG injections of their selective antagonists AM251 and AM630, respectively. Additionally, we evaluated the *in vitro* effect of ethanol (0.1 M) on SMG production of cAMP, alone or combined with AM251 or AM630.

Results: Acute ethanol administration increased AEA production in SMG and also inhibited the methacholine-induced saliva secretion that was partially restored by intraglandular injection of AM251 or AM630. In addition, ethanol significantly reduced the forskolin-induced increase in cAMP content in SMG *in vitro* while treatment with AM251 blocked this response. **Conclusion:** We conclude that the inhibitory effect produced by ethanol on submandibular gland salivary secretion is mediated, at least in part, by the endocannabinoid system.

3. Verhaltensneurobiologie, Umweltfaktoren und Konsum

Der Beginn des Alkoholkonsums in frühem Lebensalter ist mit einem erhöhten Risiko für eine spätere Alkoholabhängigkeit verbunden. Dies bestätigt diese Zwillingsstudie; sie führt aber auch an, dass ein hereditärer Einfluss ebenso für das Alter des Erstkonsums (vor dem 14. Lebensjahr) besteht, wobei eine moderierende Rolle gemeinsamen (von beiden Zwillingen erleben) Umweltfaktoren zukommt.

Timing of first alcohol use and alcohol dependence: evidence of common genetic influences

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Addiction

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ABSTRACT

Aims To estimate the magnitude of genetic and environmental influences on timing of first alcohol use and alcohol dependence (AD) and to quantify the overlap in these influences across the two alcohol-related outcomes.

Participants The sample consisted of 5382 twins (2691 complete pairs), aged 24–36 years, from the Australian Twin Registry.

Measurements History of alcohol use and DSM-IV alcohol dependence were assessed by structured telephone interview.

Findings In both sexes, the relationship between age at first alcohol use and risk for AD followed a linear trend, such that the highest rates of AD were observed in individuals who began drinking at an earlier than average age (14 years or younger). Heritability estimates for timing of first alcohol use and AD were 36% and 53%, respectively. Shared environmental factors accounted for 15% of variance in initiation. There was no evidence of shared environmental influences on AD. The genetic correlation between timing of first alcohol use and AD was 0.59.

Conclusions Findings highlight the substantial role of genetics in the development of AD and the early manifestation of that genetic risk in the timing of alcohol use initiation which, unlike AD, is also influenced to a modest degree by shared environmental factors. The considerable overlap in heritable influences—and the virtual absence of overlap in individual-specific environmental influences—on initiation of alcohol use and AD indicates that the association between age at first drink and AD is attributable in large part to common genetic sources of variance.

Gegenstand dieses Beitrages aus Brasilien ist die Verwendung von Testverfahren zur Feststellung von kognitiven und mnestischen Leistungen bei Alkoholkranken, die nach der Lesch-Typologie (Lesch I-IV) eingeteilt wurden. Dabei zeigten sich im Vergleich zu den anderen Gruppen bei Typ II und III Personen geringere frontallirn-assoziierte Leistungen und bei Typ IV sowohl Einschränkungen des frontalen Leistungen als auch der Gedächtnisfunktionen. Neben anderen Eigenschaften waren insbesondere die motorische und Verhaltenskontrolle bei Typ II – IV signifikant gegenüber Kontrollen eingeschränkt.

Cognitive Components of Frontal Lobe Function in Alcoholics Classified According to Lesch's Typology

Maria da Penha Zago-Gomes and Ester Miyuki Nakamura-Palacios
Alcohol and Alcoholism Advance Access published on August 8, 2009
Alcohol Alcohol. 2009 44: 449-457;

Abstract

Aims: This study examined the frontal lobe cognitive function and the mental state among patients with different types of alcohol dependence according to Lesch's typology. **Methods:** The frontal assessment battery (FAB) and the mini-mental status examination (MMSE) were given to 170 patients with alcoholism from a Brazilian outpatient service classified by Lesch's typology and to 40 non-alcoholic controls matched for age, gender, socio-demographic characteristics and education. **Results:** Of the alcoholic sample, 21.2% were classified as Type I, 29.4% as Type II, 28.8% as Type III and 20.6% as Type IV. Alcoholics showed significantly lower overall scores on the MMSE and the FAB as compared to non-alcoholic subjects. Type IV alcoholics had lower MMSE and FAB overall scores as compared to non-alcoholic controls and also to all other types of alcoholic subjects. However, Type II and III subjects with alcoholism also had lower overall FAB scores, but not overall MMSE scores, as compared to non-alcoholic controls. The FAB subsets of motor programming, sensitivity to interference and inhibitory control were significantly reduced in Types II, III and IV alcoholics as compared to non-alcoholic subjects, but only motor programming remained impaired in Type IV alcoholics with preserved mental function. **Conclusions:** Executive dysfunctions in alcohol dependence seem to vary depending upon the type of alcoholism. Therefore, the determination of clinical type of alcohol dependence by applying Lesch's typology, along with brief mental state and frontal function examinations, is of clinical relevance in the examination of alcoholics and provides significant clues for more directed forms of alcohol dependence treatment.

Eine Teilremission von kognitiven Einschränkungen bei Alkoholabhängigen nach längerer Abstinenz (>6 Monate) ist durch frühere Forschung belegt. Dieser Artikel erweitert die Forschungslage in so fern, als eine Verminderung der grauen Substanz parietal des Gehirns mit noch vorhandenen Störungen der räumlichen Informationsverarbeitung korrelieren.

Parietal Gray Matter Volume Loss Is Related to Spatial Processing Deficits in Long-Term Abstinent Alcoholic Men

George Fein, Ryan Shimotsu, Russell Chu, and Jerome Barakos

Alcoholism: Clinical and Experimental Research

Volume 33 Issue 10, Pages 1806 - 1814

ABSTRACT

Background: We previously demonstrated relatively intact cognitive function (with the exception of suggestive evidence for persistent deficits in spatial information processing) in middle-aged long-term abstinent alcoholics (LTAA, abstinent for 6 months or more) compared to age and gender comparable nonalcoholic controls (NAC) (Fein et al., 2006).

Methods: In the current study, we examine cortical gray matter volumes in the same samples to determine whether gray matter volumes in LTAA are consistent with the cognitive results – i.e., exhibiting gray matter volumes comparable to NAC in most brain regions, except for possible indications of persistent shrinkage in the parietal lobe subserving spatial information processing.

Results: We found gray matter shrinkage in LTAA in the parietal lobe consistent with the spatial processing deficits in this same sample. More compelling, in LTAA, the magnitude of parietal gray matter shrinkage was negatively associated with spatial processing domain performance and positively associated with alcohol dose. Gray matter volume deficits were present in the occipital and other cortical tissue, but poorer visuospatial test performance correlated significantly with smaller volumes in the parietal cortex only.

Conclusions: Taken together, the cognitive and structural imaging data provide compelling evidence that chronic alcohol abuse results in shrinkage of the parietal cortex with associated deficits in spatial information processing.

4. Diagnose und Behandlung

Der regelmäßige und kontinuierliche Besuch von Selbsthilfegruppen gilt als signifikanter Faktor bei der Abstinenzhaltung. Allerdings, so führen die Autoren dieses Beitrages an, ist die Fluktuation und der „Drop-out“ bei den Gruppenteilnehmern sehr hoch. Dies veranlasst die Autoren, einen Fragebogen zur Intentionalität des Selbsthilfegruppenbesuches zu entwickeln („Alcoholics Anonymous Intention Measure“, AAIM), basierend auf der Theorie des „geplanten Verhaltens“. Tatsächlich weist dieser Fragebogen eine ausreichende bis gute Reliabilität auf, so dass die Anwendung dieses Instrumentes zur Bewertung der Intentionalität bei Selbsthilfegruppenteilnehmern (AA) empfohlen wird.

Development and validation of the Alcoholics Anonymous Intention Measure (AAIM)

Sarah E. Zemore, Lee Ann Kaskutas
Drug and Alcohol Dependence
Volume 104, Issue 3, Pages 204-211

Abstract

Background

Drop-out from 12-step groups is notoriously high, yet the field lacks strong models and scales for addressing this problem. We aim to determine whether the theory of planned behavior (TPB) can be applied to 12-step involvement, and to develop and validate a scale of 12-step readiness based on that theory: the Alcoholics Anonymous Intention Measure (AAIM).

Method

Data were from a longitudinal trial of a manual-guided 12-step facilitation intervention called Making AA Easier (MAAEZ) involving two treatment programs in California ($N = 508$). Participants completed surveys at baseline, 7 weeks, 6 months, and 12 months. Surveys included the preliminary AAIM, a 12-step involvement measure, other readiness measures, and substance use outcomes.

Results

The final, 17-item AAIM measured Attitude (5-item α 's = .75–.83), Subjective Norm (4-item α 's = .56–.81), Perceived Control (5-item α 's = .78–.85), and Intention (3-item α 's = .80–.95) regarding attendance at 12-step groups. Components were correlated with each other and other readiness measures as expected, supporting the AAIM's validity. Scale components predicted 31% of the variance in Intention to attend 12-step groups at 6 months and 41% of the variance in 12-step involvement at 12 months. Social factors were among the strongest predictors of 12-step involvement. Results did not support the expectancy-value formulation of the TPB, as unweighted (vs. weighted) belief items performed optimally.

Conclusions

Results generally support the TPB as a model of 12-step involvement and suggest specific targets for 12-step facilitation interventions within attitude, norm, and control components. Findings also support the AAIM as a tool for identifying drop-out risks and tailoring individual interventions.

Direkte Alkoholmarker finden inzwischen eine breite Anwendung. Im Vergleich zu traditionellen Labormarkern (etwa Leber-Transaminasen) haben sie möglicherweise den Vorteil, wenig durch somatische Begleiterkrankungen, etwa Leberveränderungen, in ihrer Validität beeinträchtigt zu werden. Dies wird durch diese Studie belegt, die für Phosphatidylethanol (PEth) nachweist, dass dieser Marker zwischen leichtem und moderatem Konsum zu unterscheiden vermag, unabhängig davon, ob gleichzeitig eine weitere Lebererkrankung vorliegt.

Preliminary Evaluation of Phosphatidylethanol and Alcohol Consumption in Patients with Liver Disease and Hypertension

Scott H. Stewart, Adrian Reuben, Walter A. Brzezinski, David G. Koch, Jan Basile, Patrick K. Randall, and Peter M. Miller

Alcohol and Alcoholism

Alcohol Alcohol. 2009 44: 464-467

Abstract

Aims: The goal of this preliminary study was to evaluate the relationship between blood phosphatidylethanol (PEth) and recent drinking in patients with liver disease and hypertension. **Methods:** Twenty-one patients with liver disease and 21 patients with essential hypertension were recruited at an academic medical center. Alcohol consumption was estimated using validated self-report methods, and blood PEth was measured by HPLC-MS/MS at a contracted laboratory. Nonparametric comparisons were made between abstainers/light drinkers, moderate drinkers consuming between 1 and 3 drinks per day, and those drinking above this level. Regression methods were used to estimate the effects of liver disease, gender, and age on the relationship between PEth and alcohol use, and to estimate the strength of the linear relationship between PEth and drinking. **Results:** PEth differed significantly between the three drinking groups ($P < 0.001$). The relationship between PEth and alcohol did not differ between hypertension and liver disease patients ($P = 0.696$), nor by gender and age. While there was substantial variability between subjects in the PEth concentration given a similar level of reported drinking, the amount of ethanol consumed was strongly associated with the PEth concentration ($P < 0.001$). **Conclusion:** Results support PEth measurement by HPLC-MS/MS as a promising marker of past 1- to 2-week moderate to heavy alcohol consumption in patients with and without liver disease. PEth appears useful for differentiating abstinence or light drinking from moderate to heavy consumption, but may have limited utility for differentiating moderate from heavy alcohol use.

Diese doppelblinde Studie an ambulanten Alkoholabhängigen zur ambulanten Entzugsbehandlung belegt die Wirksamkeit von Gabapentin (gegenüber Benzodiazepinen) (s. a. Editorial). Dies gibt Hinweise dafür, die therapeutischen Möglichkeiten zur ambulanten Entzugstherapien zukünftig zu erweitern. Allerdings sollte die Wirksamkeit durch Studien im deutschen Gesundheitssystem überprüft werden.

A Double-Blind Trial of Gabapentin Versus Lorazepam in the Treatment of Alcohol Withdrawal

Hugh Myrick, Robert Malcolm, Patrick K. Randall, Elizabeth Boyle, Raymond F. Anton, Howard C. Becker, and Carrie L. Randall
Alcoholism: Clinical and Experimental Research
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ABSTRACT

Introduction: Some anticonvulsants ameliorate signs and symptoms of alcohol withdrawal, but have an unacceptable side effect burden. Among the advantages of using anticonvulsant agents in this capacity is their purported lack of interaction with alcohol that could increase psychomotor deficits, increase cognitive impairment, or increase intoxication. The aim of this study was to evaluate alcohol use and symptom reduction of gabapentin when compared with lorazepam in the treatment of alcohol withdrawal in a double-blinded randomized clinical trial.

Methods: One hundred individuals seeking outpatient treatment of alcohol withdrawal with Clinical Institute Withdrawal Assessment for Alcohol–Revised (CIWA-Ar) ratings ≥ 10 were randomized to double-blind treatment with 2 doses of gabapentin (900 mg tapering to 600 mg or 1200 tapering to 800 mg) or lorazepam (6 mg tapering to 4 mg) for 4 days. Severity of alcohol withdrawal was measured by the CIWA-Ar on days 1 to 4 of treatment and on days 5, 7, and 12 post-treatment and alcohol use monitored by verbal report and breath alcohol levels.

Results: CIWA-Ar scores decreased over time in all groups; high-dose gabapentin was statistically superior but clinically similar to lorazepam ($p = 0.009$). During treatment, lorazepam-treated participants had higher probabilities of drinking on the first day of dose decrease (day 2) and the second day off medication (day 6) compared to gabapentin-treated participants ($p = 0.0002$). Post-treatment, gabapentin-treated participants had less probability of drinking during the follow-up post-treatment period ($p = 0.2$ for 900 mg and $p = 0.3$ for 1200 mg) compared to the lorazepam-treated participants ($p = 0.55$). The gabapentin groups also had less craving, anxiety, and sedation compared to lorazepam.

Conclusions: Gabapentin was well tolerated and effectively diminished the symptoms of alcohol withdrawal in our population especially at the higher target dose (1200 mg) used in this study. Gabapentin reduced the probability of drinking during alcohol withdrawal and in the immediate postwithdrawal week compared to lorazepam.

Um die Gefährdung von Traumapatienten durch den vorherigen Konsum von Alkohol in Notfallsituationen, beispielsweise bei der Aufnahme in Notfallambulanzen, zu überprüfen, untersuchte dieser Beitrag über 200 Patienten mittels des Carbohydrat-Deficient Transferrins (CDT). Dabei wurden 7.4% Hochrisikokonsumenten identifiziert, die allerdings einen häufigen und regelmäßigen Alkoholkonsum verleugneten. Während damit die akute Risikoeinschätzung erleichtert wird, ist allerdings fraglich, ob die Identifikation eines solchen Alkoholkonsums durch Biomarker - ohne weitere Intervention - bei den Betroffenen zu einer höheren Behandlungsmotivation führt.

Alcohol Biomarkers in Patients Admitted for Trauma

Michael Fleming, Bhushan Bhamb, Michael Schurr, Marlon Mundt, and Andrea Williams
Alcoholism: Clinical and Experimental Research
Volume 33 Issue 10, Pages 1777 - 1781

ABSTRACT

Background: To assess the value of blood alcohol levels (BAL) and carbohydrate-deficient transferrin (CDT) in trauma patients.

Methods: A prospective study was conducted among 213 patients admitted to a university hospital after trauma. Outcomes of interest included the development of alcohol withdrawal, infections, respiratory problems, cardiac events, thromboembolism, and length of stay.

Results: The majority (78%) of the trauma patients in the study was males over the age of 18. Seventy-five percent were reported drinking an alcohol-containing beverage in the previous 30 days, 34% had ≥ 5 heavy drinking days, and 18.7% met current DSM-IV criteria for alcohol abuse and 13.1% current criteria for dependence. Twenty-two percent ($n = 48$) had a positive BAL and 14% ($n = 30$) a CDT level $>2.5\%$. Twelve percent ($n = 27$) of the sample developed alcohol withdrawal and 55% ($n = 113$) had one or more adverse health events during their hospitalization. The development of alcohol withdrawal was associated with an admission CDT $>2.5\%$ ($\chi^2: 4.77, p < 0.029$) and/or a positive BAL ($\chi^2: 54.01, p < 0.001$). The alcohol biomarkers identified 13 male and 3 female high-risk patients (7.4% of the total sample) who denied excessive alcohol use, and who would have been missed if these markers were not used. A composite morbidity trauma score composed of 25 adverse health events was associated with a positive BAL ($p < 0.022$).

Conclusion: The study provides additional empirical evidence that supports the use of BAL in all patients admitted for trauma. The usefulness of CDT in trauma patients remains unclear and will require larger samples in more critically ill patients.

5. Epidemiologie und Prävention

Diese Studie zur Alkoholkonsum über verschiedene Generationen hinweg belegt erneut, dass hoher Alkoholkonsum häufiger bei Männern als bei Frauen auftritt, besonders in den Altersgruppen ab 50 Jahren, während andererseits Frauen häufiger als Männer abstinent leben.

Gender and alcohol consumption: patterns from the multinational GENACIS project

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Addiction

Volume 104 Issue 9, Pages 1487 - 1500

ABSTRACT

Aims To evaluate multinational patterns of gender- and age-specific alcohol consumption.

Design and participants Large general-population surveys of men's and women's drinking behavior (n 's > 900) in 35 countries in 1997–2007 used a standardized questionnaire (25 countries) or measures comparable to those in the standardized questionnaire.

Measurements Data from men and women in three age groups (18–34, 35–49, 50–65) showed the prevalence of drinkers, former drinkers, and lifetime abstainers; and the prevalence of high-frequency, high-volume, and heavy episodic drinking among current drinkers. Analyses examined gender ratios for prevalence rates and the direction of changes in prevalence rates across age groups.

Findings Drinking per se and high-volume drinking were consistently more prevalent among men than among women, but lifetime abstinence from alcohol was consistently more prevalent among women. Among respondents who had ever been drinkers, women in all age groups were consistently more likely to have stopped drinking than men were. Among drinkers, the prevalence of high-frequency drinking was consistently greatest in the oldest age group, particularly among men. Unexpectedly, the prevalence of drinking per se did not decline consistently with increasing age, and declines in high-volume and heavy episodic drinking with increasing age were more typical in Europe and English-speaking countries.

Conclusions As expected, men still exceed women in drinking and high-volume drinking, although gender ratios vary. Better explanations are needed for why more women than men quit drinking, and why aging does not consistently reduce drinking and heavy drinking outside Europe and English-speaking countries

Wenn in der Nachbarschaft alkoholische Getränke in “outlet stores” (etwa „Fabrikverkauf“) veräußert und konsumiert wird, ist das Risiko für alle möglichen Folgeschäden, wie venerische Erkrankungen (sexuelle übertragene Erkrankungen), Leberprobleme und Gewalt signifikant erhöht, wie diese Untersuchung aus den USA aufzeigt.

The Neighborhood Alcohol Environment and Alcohol-Related Morbidity

Katherine P. Theall, Richard Scribner, Deborah Cohen, Ricky N. Bluthenthal, Matthias Schonlau, Sara Lynch, and Thomas A. Farley

Alcohol and Alcoholism

Alcohol Alcohol. 2009 44: 491-499;

Abstract

Aims: The aims of this study were (1) to examine the association between neighborhood alcohol outlet density and individual self-reported alcohol-related health outcomes in the last year—sexually transmitted infections (STI), motor vehicle accidents, injury, liver problems, hypertension and experienced violence; (2) to determine whether the relationship between morbidity and alcohol outlet density is mediated by individual alcohol consumption; and (3) to explore the role of alcohol outlet density in explaining any observed racial and ethnic differences in morbidity. **Method:** Hierarchical models from a random sample of Los Angeles, CA, and Louisiana residents ($N = 2881$) from 217 census tracts were utilized. The clustering of health and social outcomes according to neighborhood varied by health problem examined. **Results:** There was substantial clustering of STI (intraclass correlation coefficient, ICC = 12.8%) and experienced violence (ICC = 13.0%); moderate clustering of liver problems (ICC = 3.5%) and hypertension (ICC = 3.9%); and low clustering of motor vehicle accident (ICC = 1.2%) and injury (ICC = 1.4%). Alcohol outlet density was significantly and positively associated with STI (crude OR = 1.80, 95% CI = 1.10–3.00), liver problems (crude OR = 1.33, 95% CI = 1.02–1.75) and experienced violence (crude OR = 1.31, 95% CI = 1.13–1.51) although not with other morbidity outcomes. Mediation analyses of morbidity outcomes revealed partial mediation of individual alcohol consumption in the relationship between alcohol density and STI and violence, and full mediation for liver problems. **Conclusions:** Findings support the concept that off-premise alcohol outlets in the neighborhood environment may impact health and social outcomes, either directly or indirectly, through individual alcohol consumption and these associations may be heterogeneous with respect to race and ethnicity.

Eine weitere (Übersichts)Arbeit zu Verkaufszeiten und Nähe von „Alcohol outlets“, die Ergebnisse zu Studien aus den Jahren 2000-2008 zusammenfasst. Fazit: Dauer des Alkoholverkaufs und die Dichte der Läden haben einen ungünstigen Einfluss auf die Konsummuster der Bewohner und damit auch auf die damit in Verbindung stehenden negativen Folgen. Damit ergeben sich allerdings auch Anhaltspunkte für Präventionsmassnahmen, etwa die Restriktion der Öffnungszeiten.

Hours and Days of Sale and Density of Alcohol Outlets: Impacts on Alcohol Consumption and Damage: A Systematic Review

Svetlana Popova, Norman Giesbrecht, Dennis Bekmuradov, and Jayadeep Patra
Alcohol Alcohol. 2009 44: 500-516;

Abstract

Aims: The aim of this study was to examine recent research studies published from 2000 to 2008 focusing on availability of alcohol: hours and days of sale and density of alcohol outlets. **Methods:** Systematic review. **Results:** Forty-four studies on density of alcohol outlets and 15 studies on hours and days of sale were identified through a systematic literature search. The majority of studies reviewed found that alcohol outlet density and hours and days of sale had an impact on one or more of the three main outcome variables, such as overall alcohol consumption, drinking patterns and damage from alcohol. **Conclusions:** Restricting availability of alcohol is an effective measure to prevent alcohol-attributable harm.

“College Drinking” gilt als erhebliches Problem an amerikanischen Universitäten. Diese Untersuchung befragte 12.900 Studenten nach ihrer Gesundheit und den Konsumgewohnheiten, von denen 2090 einen mindestens riskanten Alkoholkonsum aufwiesen. Nicht besonders überraschend ist dann, dass sowohl Frauen als auch Männer ein erhöhtes Verletzungsrisiko aufweisen, wenn übermäßig Alkohol konsumiert wird.

Extreme College Drinking and Alcohol-Related Injury Risk

Marlon P. Mundt, Larissa I. Zakletskaia, and Michael F. Fleming

Alcoholism: Clinical and Experimental Research

Volume 33 Issue 9, Pages 1532 - 1538

ABSTRACT

Background: Despite the enormous burden of alcohol-related injuries, the direct connection between college drinking and physical injury has not been well understood. The goal of this study was to assess the connection between alcohol consumption levels and college alcohol-related injury risk.

Methods: A total of 12,900 college students seeking routine care in 5 college health clinics completed a general Health Screening Survey. Of these, 2,090 students exceeded at-risk alcohol use levels and participated in a face-to-face interview to determine eligibility for a brief alcohol intervention trial. The eligibility interview assessed past 28-day alcohol use and alcohol-related injuries in the past 6 months. Risk of alcohol-related injury was compared across daily drinking quantities and frequencies. Logistic regression analysis and the Bayesian Information Criterion were applied to compute the odds of alcohol-related injury based on daily drinking totals after adjusting for age, race, site, body weight, and sensation seeking.

Results: Male college students in the study were 19% more likely (95% CI: 1.12–1.26) to suffer an alcohol-related injury with each additional day of consuming 8 or more drinks. Injury risks among males increased marginally with each day of consuming 5 to 7 drinks (odds ratio = 1.03, 95% CI: 0.94–1.13). Female participants were 10% more likely (95% CI: 1.04–1.16) to suffer an alcohol-related injury with each additional day of drinking 5 or more drinks. Males (OR = 1.69, 95% CI: 1.14–2.50) and females (OR = 1.81, 95% CI: 1.27–2.57) with higher sensation-seeking scores were more likely to suffer alcohol-related injuries.

Conclusions: College health clinics may want to focus limited alcohol injury prevention resources on students who frequently engage in extreme drinking, defined in this study as 8+M/5+F drinks per day, and score high on sensation-seeking disposition.

Welche Präventionsmaßnahmen gegen alkoholkonsum-assoziierte Erkrankungen möglich und kostenwirksam sind, belegt diese Untersuchung aus Australien. Ein ganzes Bündel von Maßnahmen wird vorgeschlagen, u.a. Erhöhung des Alters für erlaubten Erstkonsum, die Durchführung von Kurzinterventionen, Kampagnen gegen Alkohol am Steuer und Entwöhnungstherapieangebote. Die Autoren versprechen sich einen mehr als 10fach effektiveren Einsatz der Mittel, wenn diese Maßnahmen umgesetzt würden.

Cost-effectiveness of interventions to prevent alcohol-related disease and injury in Australia

Linda Cobiac , Theo Vos , Christopher Doran & Angela Wallace

Addiction

Volume 104 Issue 10, Pages 1646 - 1655

ABSTRACT

Aims To evaluate cost-effectiveness of eight interventions for reducing alcohol-attributable harm and determine the optimal intervention mix.

Methods Interventions include volumetric taxation, advertising bans, an increase in minimum legal drinking age, licensing controls on operating hours, brief intervention (with and without general practitioner telemarketing and support), drink driving campaigns, random breath testing and residential treatment for alcohol dependence (with and without naltrexone). Cost-effectiveness is modelled over the life-time of the Australian population in 2003, with all costs and health outcomes evaluated from an Australian health sector perspective. Each intervention is compared with current practice, and the most cost-effective options are then combined to determine the optimal intervention mix.

Measurements Cost-effectiveness is measured in 2003 Australian dollars per disability adjusted life year averted.

Findings Although current alcohol intervention in Australia (random breath testing) is cost-effective, if the current spending of \$71 million could be invested in a more cost-effective combination of interventions, more than 10 times the amount of health gain could be achieved. Taken as a package of interventions, all seven preventive interventions would be a cost-effective investment that could lead to substantial improvement in population health; only residential treatment is not cost-effective.

Conclusions Based on current evidence, interventions to reduce harm from alcohol are highly recommended. The potential reduction in costs of treating alcohol-related diseases and injuries mean that substantial improvements in population health can be achieved at a relatively low cost to the health sector.

6. Somatische Alkoholeffekte

Für Abhängige bleibt die Hoffnung, dass sich bei dauerhafter Abstinenz möglicherweise eingetretene alkoholbedingte somatische Erkrankungen zumindest teilweise bessern. Dieser Betrag belegt, dass auch Osteopenie bei Abstinenz eine gewisse Besserung erwarten lässt, während, nicht überraschend, bei weiterem Konsum eine Verschlechterung eintritt.

Osteopenia in Alcoholics: Effect of Alcohol Abstinence

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Alcohol and Alcoholism

Alcohol Alcohol. 2009 44: 468-475;

Abstract

Aims: The aims of this study were to assess bone mineral density (BMD) and content (BMC), osteocalcin, serum telopeptide, PTH and vitamin D in alcoholics, and to determine if a 6-month period of abstinence leads to changes in these parameters. **Methods:** Serum osteocalcin, insulin-like growth factor 1 (IGF-1), telopeptide (40 patients) and 1,25 dihydroxyvitamin D, were measured in 28 controls and 77 alcoholic patients, 48 of whom were evaluated again 6 months later. All patients underwent whole-body assessment of BMD by a Hologic QDR-2000 (Waltham, MA, USA) bone densitometer, at the beginning of the study and 6 months later. **Results:** Patients showed higher serum telopeptide levels (0.59 ± 0.40 versus 0.19 ± 0.10 nmol/100 ml, $P < 0.001$), lower IGF-1 [median = 49, interquartile range (IQR) = 31–121 ng/ml versus 135, IQR = 116–237 ng/ml, $P < 0.001$], vitamin D [26.5, IQR = 17.0–37.8 pg/ml versus 82.4 (IQR = 60.9–107.4 pg/ml, $P < 0.001$] and osteocalcin (2.1, IQR = 1.1–3.6 ng/ml versus 6.65, IQR = 4.9–8.8 ng/ml, $P < 0.001$) than those in controls. Patients also showed lower BMD values, Z- and T-scores at many levels of the skeleton and reduced total BMC. After 6 months, those who continued drinking showed a loss of bone mass, whereas those who abstained showed either no change or increase, differences being especially marked at pelvis, right arm and total BMD and BMC. Simultaneously, abstainers showed a significant increase in osteocalcin (versus a decrease among those who continued drinking). Serum telopeptide increased in both groups. **Conclusion:** Ethanol consumption leads to osteopenia, and decreased serum osteocalcin, which improve with abstinence, whereas those who continue drinking show a worsening of both parameters.

Nach wie vor umstritten ist der genaue Mechanismus der Genese alkoholinduzierter Bauchspeicheldrüsenentzündungen. Grundlagenforschung, wie diese Studie an Zellkulturen, weist auf eine dosisabhängige Stimulation von Pankreaszellen durch Bier, nicht aber andere Alkoholika, hin. Mögliche Implikationen dieser Befunde für Pathologie von Pankreasfunktionsstörungen werden diskutiert.

Beer But Not Wine, Hard Liquors, or Pure Ethanol Stimulates Amylase Secretion of Rat Pancreatic Acinar Cells In Vitro

Andreas Gerloff, Manfred V. Singer, and Peter Feick
Alcoholism: Clinical and Experimental Research
Volume 33 Issue 9, Pages 1545 - 1554

ABSTRACT

Background: In contrast to pure ethanol, the effect of alcoholic beverages on the exocrine pancreas is greatly unknown. Besides ethanol, alcoholic beverages contain numerous nonalcoholic constituents which might have pathophysiological effects on the pancreas. The aim of the present study was to investigate whether some commonly used alcoholic beverages and pure ethanol influence the main function of rat pancreatic acinar cells, i.e., enzyme output in vitro.

Methods: Rat pancreatic AR4-2J cells were differentiated by dexamethasone treatment for 72 hours and freshly isolated pancreatic acini were prepared from Sprague–Dawley rats using collagenase digestion. After incubation of cells in the absence or presence of 1 to 10% (v/v) beer (containing 4.7% v/v ethanol), 10% (v/v) wine (containing 10.5 to 12.5% v/v ethanol), 10% (v/v) hard liquor (such as whisky, rum, and gin), or of the corresponding ethanol concentrations (4.03 to 80.6 mM) for 60 minutes, protein secretion was measured using amylase activity assay.

Results: Incubation of AR4-2J cells with beer caused a dose-dependent stimulation of basal amylase secretion that was significant at doses of beer above 0.5% (v/v). Stimulation with 10% (v/v) beer induced $92.7 \pm 25.2\%$ of maximal amylase release in response to the most effective cholecystinin (CCK) concentration (100 nM). In contrast, ethanol (up to 80.6 mM) did neither stimulate nor inhibit basal amylase release. Lactate dehydrogenase measurement after treatment of AR4-2J cells with beer for 24 hours indicated that the increase of amylase release was not due to cell membrane damage. Wine and hard liquor had no effect on basal amylase secretion neither diluted to the ethanol concentration of beer nor undiluted. In freshly isolated rat pancreatic acinar cells beer dose-dependently stimulated amylase secretion in a similar manner as in AR4-2J cells.

Conclusions: Our data demonstrate that beer dose-dependently increases amylase output. Since neither ethanol nor the other alcoholic beverages tested caused stimulation of amylase release, our findings indicate that nonalcoholic constituents specific for beer are responsible for this increase. These as yet unknown compounds have to be identified and considered in further studies of ethanol-induced pathological and functional changes of the pancreas.

Personen mit Alkoholkonsum und somatischen Erkrankungen weisen häufiger Komplikationen und eine ungünstigere Prognose auf, als Nicht-Konsumenten. Zu diesem Ergebnis kommt auch diese Untersuchung zum Acute Respiratory Stress Syndrom (ARDS), wo die Konsumenten deutlich mehr extravasale Flüssigkeit (EVLW) aufwiesen, als die Vergleichspersonen.

Alcohol Abuse Enhances Pulmonary Edema in Acute Respiratory Distress Syndrome

David M. Berkowitz, Pajman A. Danai, Stephanie Eaton, Marc Moss, and Greg S. Martin
Alcoholism: Clinical and Experimental Research
Volume 33 Issue 10, Pages 1690 - 1696

ABSTRACT

Background: Pulmonary edema is a cardinal feature of the life-threatening condition known as acute respiratory distress syndrome (ARDS). Patients with chronic alcohol abuse are known to be at increased risk of developing and dying from ARDS. Based upon preclinical data, we hypothesized that a history of chronic alcohol abuse in ARDS patients is associated with greater quantities and slower resolution of pulmonary edema compared with ARDS patients without a history of alcohol abuse.

Methods: A PiCCO™ transpulmonary thermodilution catheter was inserted into 35 patients within 72 hours of meeting American European Consensus Criteria definition of ARDS. Pulmonary edema was quantified as extravascular lung water (EVLW) and measured for up to 7 days in 13 patients with a history of chronic alcohol abuse and 22 patients without a history of chronic alcohol abuse.

Results: Mean EVLW was higher in patients with a history of chronic alcohol abuse (16.6 vs. 10.5 ml/kg, $p < 0.0001$). Patients with alcohol abuse had significantly greater EVLW over the duration of the study (RM-ANOVA $p = 0.003$). There was a trend towards slower resolution of EVLW in patients with a history of alcohol abuse (a decrease of 0.5 ml/kg vs. 2.4 ml/kg, $p = 0.17$) over the study period. A history of alcohol abuse conferred a greater than 3-fold increased risk of elevated EVLW [OR 3.16, (1.26 to 7.93)] using multivariate logistic regression analysis.

Conclusions: In patients who develop ARDS, alcohol abuse is associated with greater levels EVLW and a trend towards slower resolution of EVLW. Combined with mechanistic and preclinical evidence linking chronic alcohol consumption and ARDS, targeted therapies should be developed for these patients.

7. Editorials, Übersichten

Diese Übersichtsarbeit fasst die aktuellen Erkenntnisse zu alkohol-induzierten Lebererkrankungen zusammen. So wird nicht nur auf die Theorien zur Entstehung dieser Störungen eingegangen, sondern auch auf mögliche molekularbiologische Faktoren, die das Risiko für Leberschäden und -tumoren signifikant durch ganz verschiedene Mechanismen beeinflussen.

Current Experimental Perspectives on the Clinical Progression of Alcoholic Liver Disease

Katja Breitkopf, Laura E. Nagy, Juliane I. Beier, Sebastian Mueller, Honglei Weng, and Steven Dooley

Alcoholism: Clinical and Experimental Research
Volume 33 Issue 10, Pages 1647 - 1655

ABSTRACT

Chronic alcohol abuse is an important cause of morbidity and mortality throughout the world. Liver damage due to chronic alcohol intoxication initially leads to accumulation of lipids within the liver and with ongoing exposure this condition of steatosis may first progress to an inflammatory stage which leads the way for fibrogenesis and finally cirrhosis of the liver. While the earlier stages of the disease are considered reversible, cirrhotic destruction of the liver architecture beyond certain limits causes irreversible damage of the organ and often represents the basis for cancer development. This review will summarize current knowledge about the molecular mechanisms underlying the different stages of alcoholic liver disease (ALD). Recent observations have led to the identification of new molecular mechanisms and mediators of ALD. For example, plasminogen activator inhibitor 1 was shown to play a central role for steatosis, the anti-inflammatory adipokine, adiponectin profoundly regulates liver macrophage function and excessive hepatic deposition of iron is caused by chronic ethanol intoxication and increases the risk of hepatocellular carcinoma development.

Eine besondere alkoholbezogene Krisensituation stellt sich, nach Aussagen dieses Beitrages, in Russland dar. Dort, so die Autoren, haben alkoholassoziierte Todesfälle unter der Arbeitsbevölkerung einen Anteil von 31-43%. Damit würden über 170.000 Todesfälle jährlich alleine durch diese Ursache erklärt. Ebenso wird ein Pro-Kopf Konsum von 15-18 Liter reinen Alkohols angenommen, der den Konsum in Deutschland (etwa 10 Liter) doch weit übersteigt. Insgesamt ernüchternde Zahlen.

Alcohol and Russian mortality: a continuing crisis

David A. Leon , Vladimir M. Shkolnikov & Martin McKee

Addiction

Volume 104 Issue 10, Pages 1630 - 1636

ABSTRACT

Background Russia remains in the grip of a mortality crisis in which alcohol plays a central role. In 2007, male life expectancy at birth was 61 years, while for females it was 74 years. Alcohol is implicated particularly in deaths among working-age men.

Aims To review the current state of knowledge about the contribution of alcohol to the continuing very high mortality seen among Russian adults

Results Conservative estimates attribute 31–43% of deaths among working-age men to alcohol. This latter estimate would imply a minimum of 170 000 excess deaths due to hazardous alcohol consumption in Russia per year. Men drink appreciably more than women in Russia. Hazardous drinking is most prevalent among people with low levels of education and those who are economically disadvantaged, partly because some of the available sources of ethanol are very cheap and easy to obtain. The best estimates available suggest that per capita consumption among adults is 15–18 litres of pure ethanol per year. However, reliable estimation of the total volume of alcohol consumed per capita in Russia is very difficult because of the diversity of sources of ethanol that are available, for many of which data do not exist. These include both illegal spirits, as well as legal non-beverage alcohols (such as medicinal tinctures). In 2006 regulations were introduced aimed at reducing the production and sale of non-beverage alcohols that are commonly drunk. These appear to have been only partially successful.

Conclusion There is convincing evidence that alcohol plays an important role in explaining high mortality in Russia, in particular among working age men. However, there remain important uncertainties about the precise scale of the problem and about the health effects of the distinctive pattern of alcohol consumption that is prevalent in Russia today. While there is a need for further research, enough is known to justify the development of a comprehensive inter-sectoral alcohol control strategy. The recent fall in life expectancy in Russia should give a renewed urgency to attempts to move the policy agenda forward.

Übersichtsarbeit zu Problemen und Limitationen bei genetischen Assoziationsstudien.

Reliability and replicability of genetic association studies

MARCUS R. MUNAFÒ

Addiction

Volume 104 Issue 9, Pages 1439 - 1440

KEIN ABSTRACT VERFÜGBAR.

8. Links