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Posters

Involvement of dorsal hippocampus in context-induced the reinstatement of ethanol-seeking behavior in C57BL/6 mice

Anjos-Santos, Alexia[a*]; Bianchi, Paula Cristina[a]; Favoretto, Cristiane Aparecida[a]; da Silva, Fernando Bezerra Romualdo[a]; Cruz, Fabio Cardoso[a].

[a]Dept Pharmacology, Universidade Federal de São Paulo, São Paulo, Brazil.
*alexiaanjos@hotmail.com

ABSTRACT

The ABA renewal is an important animal model to study the influence of contextual cues on the reinstatement of ethanol-seeking. Here, we standardized a protocol for context-induced reinstatement of ethanol seeking in mice and investigated the involvement of the dorsal hippocampus in this behavior. For that, male C57BL/6 mice, at 8-10 weeks of age, were given free access to either a 9% ethanol + 2% saccharin (ES) or a 2% saccharin solution (SA) and water in their home cage, followed by an involuntary four-hour consumption of these solutions. Then, mice were trained to self-administer ES or SA in context A during three sessions of 16h, followed by 15 sessions of 1h. We extinguished drug-reinforced responding in a distinct context B for 14 sessions and assessed context-induced reinstatement of the alcohol-seeking behavior by placing the animals in context A or B. Sixty min later, mice were perfused, and brains were removed for immunofluorescence analysis for Fos (cell activation marker) and NeuN (neuron marker) in the dorsal hippocampus. We found that animals of both groups acquired the operant self-administration behavior in context A and extinguished this behavior in context B. Re-exposure to context A but not context B reinstated the seeking behavior and increased neuronal activation in the hippocampal CA1 and CA2 regions in ethanol and saccharin groups. Thus, our findings suggest that the association of ethanol with saccharin facilitated the establishment of context-induced reinstatement protocol, and the context induced reinstatement of ethanol seeking is associated with the activation of CA1 and CA2 hippocampal subregions.

Keywords: ethanol, renewal, mice, hippocampus

Rats who lives with depressed ones drink more alcohol

Colombo, M.[a,*]; Ruiz, M.[a]; Genovese, P.[a]; Calliari, A.[a]; Pautassi, R.[b]; Ruiz, P[a].

[a]Departamento de Biociencias, Facultad de Veterinaria, Universidad de la República, Uruguay
[b]INIMEC-CONICET, Universidad Nacional de Córdoba, Argentina
*mmicacolombo@gmail.com

ABSTRACT

An interesting phenomenon, emotional contagion, allows the transmission of emotional states and, along with this, of behavioral patterns from one individual to another. The aim of our work was to observe the influence of emotional contagion on alcohol consumption in euthymic rats that cohabitate with pharmacologically depressed peers. 40 female adolescent Wistar rats were used, which were divided into 5 boxes, designating one box as control.

Score (PACS). Gr.1 patients exhibited unique, higher, and significant effects of association on the withdrawal domain (LPS, adiponectin, IL-6, and IL-8); and withdrawal-associated depression domain (LPS, sCD14, IL-6, and IL-8). Craving (assessed by PACS, Penn-Alcohol Craving Scale) could be described by the gut-dysregulation (LBP and Leptin) and candidate proinflammatory (IL-1β and TNF-α) markers. Such pathway model describes the heavy drinking phenotype, HDD90 with even higher effects (R2=0.955, p=0.006) in the AUD patients who had higher ratings for craving (PACS>5). Interaction of gut-dysfunction, cytokines involved in both inflammation and mediating-chemotactic activity constitutes a novel pathophysiological gut-brain axis for withdrawal, and withdrawal-associated depression and craving domains in AUD. AUD patient with higher craving show higher reinforcing effects of the gut-brain axis response for heavy drinking.

Keywords: AUD, Craving, Cytokines, Depression, Gut-Brain Axis, Withdrawal

Ethanol exposure during the third trimester-equivalent of development affects GPx1 and scaffolding GIT1 protein expressions in liver

Díaz Castillo, Alberto[a,b]; Silgado Ortega, Janne Paola[b]; Jiménez Villalobos, Thulie Pauline[a]; Tuirán Ruiz, Mauricio[a]; Gómez Estrada, Harold[1]; Jotty Arroyo, Karick[a,b,*]

[a]University of Cartagena, Chemistry Pharmaceutical Faculty, Medicinal and Organic Chemical Research group
[b]University of Cartagena, Natural and Exact Science Faculty, Physiology and Neuroscience Research group
*kjottya@unicartagena.edu.co

ABSTRACT

Ethanol (EtOH) exposure throughout gestation and breastfeeding periods leads to multiples adverse outcomes in the hepatic system. Under oxidative stress, alterations in liver are related to the inhibition of induced nitric oxide synthase activity in sinusoidal cells as a consequence of the G-protein-coupled receptor (GPCR)-kinase interacting (GIT1) low expression. Here, we hypothesized that both glutathione peroxidase 1 (GPx1) and GIT1 could be altered by EtOH exposure during the third trimester human equivalent development. Therefore, we exposed rats during the third trimester-equivalent [postnatal days (PD) 2-8] to moderate levels of maternal EtOH (20%). GPx1 and GIT1 expressions were detected by western blotting, antioxidant activity of GPx and concentration of hepatic carbonyl groups (PC) were determined by spectrophotometry. Serum biochemistry parameter, such as alanine aminotransferase (ALT), glucose (gluc), cholesterol (chol), and triglycerides (TG) were also measured. We found that ethanol decreases both GIT1 and GPx1 expression, affecting the GPx antioxidant activity and conversely increasing the protein oxidation. These results demonstrate, for the first time that the GPx antioxidant system altered by EtOH exposure during the third trimester of development is correlated to a parallel decreased expression of the GIT1 protein.

Keywords: GPx1-antioxidant; GIT1; Ethanol-exposed offspring

Coping motives for drinking as a mediator between anxiety and depression, and alcohol outcomes in community Spanish young adults

González-Ponce, Bella María*[,a]; Vera, Belén[c]; Pilatti, Angelina[c]; Pautassi, Ricardo[d]; Parrado-González, Alberto[b]; Dacosta-Sánchez, Daniel[a]; Fernández-Calderón, Fermín[a]

[a]Departamento de Psicología Clínica y Experimental de la Universidad de Huelva, España
[b]Departamento de Psicología Social, Evolutiva y de la Educación de la Universidad de Huelva, España
[c]Instituto de Investigaciones Psicológicas de la Universidad Nacional de Córdoba (IIPsi-UNC-CONICET), Argentina
[d]Instituto de Investigación Médica Mercedes y Martín Ferreyra -INIMEC-CONICET-UNC.
Corresponding author: González Ponce, Bella;
*bellamaria.gonzalez@dpces.uhu.es

ABSTRACT

Consistent with the medication hypothesis, drinking to cope with negative affect appears to mediate the relationship between mental health and alcohol-related problems, which has been shown in college students. However, there is a lack of evidence in non-university samples that limits the generalization of results. The present study examines the mediating role of coping motives in the relationship between depression and anxiety and alcohol outcomes (frequency and quantity of alcohol use, binge drinking, and alcohol-related consequences). Prospective design with a baseline assessment and a 2-month follow-up. We recruited 334 young adults in the community (mean = 21.1; SD = 2.21) who completed a questionnaire to measure coping motives for drinking and depression and anxiety (Brief Symptom Inventory) at baseline. Eight mediation models were tested, one for each alcohol outcome (at follow-up) for depression and another four for anxiety. The coping motives for drinking mediated the positive relationships between depression and alcohol outcomes, such that higher levels of depression were associated with higher coping motives, which in turn, were associated with higher alcohol-related outcomes. The same results were found for anxiety, except for the relationship between anxiety and binge drinking, which was not mediated by coping motives. Our findings are consistent with the medication hypothesis that "drinking to cope with negative affect" is a critical mediator of associations between mental health and alcohol-related problems in young adults in the community. Training in healthy coping strategies against negative affect should be useful for interventions aimed at reducing alcohol use and their harms.

Keywords: coping motives, alcohol, depression, anxiety, alcohol outcomes; binge drinking

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Relationship between alcohol use and mental health

Thoma, Esmeralda[a,*]; Bitri, Sonila[b]; Nurce, Alma[a]; Kola, Irena[a]

[a]Fakulteti I Shkencave Mjekësore Teknike/Universiteti I Mjekësisë
[b]Spitali Amerikan 2
*esmeraldahoxha@yahoo.com

ABSTRACT

Clinicians working with alcohol use disorders patients sometimes face a difficult task assessing their patient's psychiatric complaints because heavy drinking associated with alcoholism can coexist with, contribute to, or result from several different psychiatric syndromes. The patient's gender, family history, and course of illness over time also should be considered to attain an accurate diagnosis. The aim of this study is to find out if there is any relationship between AUD and any psychiatric diagnoses. If there is a relationship, which is the most prevalent psychiatric diagnoses? This is a retrospective study, that was performed in two clinics responsible for the treatment of AUD in UHC" Mother Teresa" during January 2018-june 2019. The diagnosis was made based on clinical history of the patients and laboratory as well as imaging findings. In this study were enrolled 330 patients. In this study were enrolled 330 patients. 98 % of them were male. 107 patients had a dual diagnosis in the moment of hospitalization. Patients without a concomitant diagnose consumed 344.8 (±103.1) ml/day alcohol, whereas patients with a concomitant diagnose consumed 404.1 (±123.5) ml/day alcohol with a significant statistically difference between them (t = 4.7 p < 0:01). Patients that consumed > 350 ml/day alcohol had 1.7 more risk to develop a dual diagnose than those that consumed < 350 ml/day alcohol. Relative risk RR=1.7 95%CI (1.1 – 2.8) p=0.02. 45.5% of patients had anxiety