

Sociodemographical data, medical and psychiatric history, substance abuse pattern and treatments received have been collected.

**Results:** Although the heterogeneity of the studied sample, the most frequent profile observed has been low social class, Mediterranean male stereotype affected of schizophrenia and related disorders or with borderline personality disorder. Cannabis and alcohol are the most frequent substances.

**Conclusions:** the results of this study contributes to elaborate and modify our dual pathology program.

## P0047

The TAQ1A DRD2 Polymorphism in type II alcoholism: Marker of age at onset or of a familial disease?

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**Background and Aims:** Cloninger's type II is a severe, early-onset, male-limited, genetically influenced, impulsive form of alcoholism. We assessed the association of two gene polymorphisms (TaqI A DRD2 and 5-HTTpro) with Cloninger's typology, as defined by age at onset of alcohol-related problems, and family history of alcohol abuse, which is thought to be more frequent in type II alcoholics.

**Methods:** 58 male alcohol dependent patients were discriminated according to age at onset of alcohol-related problems and interviewed about family history of alcoholism. Genomic DNA was extracted and PCR amplifying the studied polymorphisms were performed. The associations between DRD2 (A1 or A2 alleles), 5-HTTpro (L and S alleles), family history and typology were assessed by Pearson chi2 analyses.

**Results:** While typology was not influenced by any of the studied polymorphisms, a higher rate of general family history of alcohol abuse was still observed in type II patients ( $\chi^2= 4.53$ ;  $p = 0.033$ ). Furthermore, the A1 allele of the DRD2 was significantly associated with paternal history of alcoholism ( $\chi^2= 4.66$ ;  $p = 0.031$ ) and male, first-degree, collateral history of alcoholism ( $\chi^2= 4.40$ ;  $p = 0.036$ ).

**Conclusions:** Age at onset as main discriminator between type I and type II does not seem to be influenced by TaqI A DRD2 and 5-HTTpro polymorphisms. However, the A1 allele of the DRD2 may be a marker of male familial alcoholism, which is in line with previous studies showing association between TaqI A DRD2 with some clinical features of type II alcoholism.

## P0048

Chronic heroin and cocaine abuse is associated with decreased serum concentrations of the nerve growth factor and brain-derived neurotrophic factor

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Chronic cocaine and heroin users display a variety of central nervous system (CNS) dysfunctions including impaired attention, learning, memory, reaction time, cognitive flexibility, impulse control and selective processing. These findings suggest that these drugs alter normal brain functions and possibly cause neurotoxicity. Neurotrophins are a class of proteins that serve as survival factors for CNS neurons. In particular, nerve growth factor (NGF) plays an important role in the survival and function of cholinergic neurons while brain-derived

neurotrophic factor (BDNF) is involved in synaptic plasticity and in the maintenance of midbrain dopaminergic and cholinergic neurons.

Our goal was to identify possible change in serum neurotrophins in heroin and cocaine users.

In the present study, we measured by enzyme-linked immunosorbent assay (ELISA) the NGF and BDNF levels in serum of three groups of subjects: heroin-dependent patients, cocaine-dependent patients and healthy volunteers.

BDNF was decreased in heroin users whereas NGF was decreased in both heroin and cocaine users (1).

These findings indicate that NGF and BDNF may play a role in the neurotoxicity and addiction induced by these drugs. In view of the neurotrophin hypothesis of schizophrenia the data also suggest that reduced level of neurotrophins may increase the risk of developing psychosis in drug users.

1) Angelucci F, Ricci V, Pomponi M, Conte G, Mathe AA, Tonali P, Bria P. Chronic heroin and cocaine abuse is associated with decreased serum concentrations of the nerve growth factor and brain-derived neurotrophic factor. *J Psychopharmacol.* 2007 Aug 22

## P0049

Subcutaneous implantation of Disulfiram-effective therapy or placebo?

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Disulfiram is one of most important drug in the treatment of alcoholics. Oral form of disulfiram was found 60 years ago. Subcutaneous form is in use more than 30 years. There are a lot of studies with dilemma is it effective therapy or placebo. We tried to elucidate this problem. We analyzed 36 alcoholics who implanted Disulfiram during one-year (2004.). We follow those patients during next two years (2005. and 2006.). During this more than two years period, 26 patients (72%) were in total abstinence, 6 patients (17%) were in abstinence more than one year and only 4 patients (11%) had abstinence less than one year. Social-demographic characteristics of patients with Disulfiram implant were: age between 31 and 40 years (36%), male (94%), with secondary education (61%), who live in town (53%), married (53%) and with agreement for hospital treatment (high motivation) (69%). We conclude that Disulfiram implant is very effective therapy, because 3/4 of all implanted patients have longer abstinence than two years, related the standard oral therapy of Disulfiram (max. 60% patients have abstinence longer than one year).

## P0050

The influence of the Antioxidant Carnosin on the intensity of the alcoholic patients pathological addiction to alcohol during rehabilitation period

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Carnosin is an endogenously synthesized dipeptide composed by beta-alanine and L-histidine. It acts as a free radical scavenger and possesses antioxidant and antiglycating properties. It is well known that the chronic oxidative stress is formed in alcoholism. A new bioactive medication for people with carnosin as a basic active substance (Russian trade name "Sevitin") has been developed in Russia. The analysis of the influence of the Sevitin on the pathological addiction to alcohol of alcoholic patients during rehabilitation is presented in this study.

43 alcoholic patients, who had been undergoing anti-alcohol treatment at the Mental Health Research Institute, Russian Academy of Medical Sciences, Tomsk for one month, were subjects in the research. 32 alcoholic patients in the rehabilitation period took a 1.2 g daily dose of Sevitin (basic group) for 30 days, and the other 14 alcoholic patients were not given any medication treatment during the rehabilitation period (comparison group). Clinical dynamic of basic signs of the alcoholic patients pathological addiction to alcohol (affective, neurovegetative, ideator, dissonic and behavioral) was rated in scores. The scores were self-reported by patients twice: first – before the rehabilitative period and second – after 30 days of rehabilitation.

The reduction of affective, neurovegetative and dissonic symptoms after 30 days of rehabilitation was observed in the basic group, while the reduction of these symptoms in the comparison group was not reliable.

It was concluded that the use of Sevitin during the rehabilitation period contributes to reducing of the intensity of the pathological addiction to alcohol.

## P0051

Modulation of impulsivity by topiramate: Implications for the treatment of alcohol dependence

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Two laboratory paradigms identifying two behavioral processes have been used to measure impulsivity. The first relates to behavioral inhibition, i.e., the ability to inhibit thoughts or actions appropriately. The second pertains to the degree to which immediate rewarding consequences have more control over behavior than delayed consequences. Behavioral impulsivity disorders have been associated with alcohol dependence. Topiramate has been used to treat many disorders characterized by impulsivity symptoms. Reports also suggest that topiramate has utility in treating a variety of addictive disorders. Little is known, however, about whether its anticraving effects are related to its impulsivity-reducing actions. The aim of this preliminary study was to investigate which type/dimension of behavioral impulsivity was associated with topiramate's anticraving effects. A 12-week, double-blind, placebo-controlled pilot study of topiramate for treating alcohol dependence was conducted. Subjects were men recruited from alcoholism treatment units (topiramate=21; placebo=20). The continuous performance test and stop-signal task assessed behavioural inhibition. Differential reinforcement for low-rate responding was used to evaluate the delay discounting dimension. Alcohol craving and the amount of alcohol consumed during the study also were assessed. Topiramate-treated patients had lower rates of alcohol consumption and significantly lower alcohol craving scale scores than controls, and exhibited greater improvements in the behavioural inhibition and delay discounting paradigms. Improvement in alcohol craving was associated with better performance on the behavioural inhibition paradigm. Our findings suggest that topiramate's anticraving actions could be related to its effects on behavioural inhibition. More studies are needed to confirm and understand this link.

## P0052

Psychophysiological correlation between alcohol craving scale (ACS-3F) and startle reflex modulation

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**Introduction:** Alcohol Craving Scale-3Factors (ACS-3F) retrospectively assesses the period during which the subject consumed alcohol. It includes 33 descriptions grouped in three scales: positive reinforcement, negative reinforcement and impaired control. Tiffany emphasized the poor correlation between self-reported drug urges and the physiological effects of drug-associated stimuli. Our main objective in this project was to investigate the psychophysiological relationship between ACS-3F and the startle reflex modulation.

**Objective:** We hypothesized that the assessment of self-reported craving with ACS-3F would correlate with the non-conscious emotional response to these cues represented by the modulation of the acoustic startle response.

**Sample and Methods:** 55 alcoholic patients (29 abstainers and 26 relapsers) were exposed to acoustic startle test after three weeks of detoxification treatment. In this study, the difference between the amplitude of the startle reflex associated to images related to alcohol and the one associated to neutral images was used as dependent variable (motivational value of alcohol cues [MVAC]=startle amplitude in the presence of alcohol images-startle amplitude of neutral images).

**Results:** The abstainer group showed a significant inverse correlation ( $r=-0.475$ ,  $p<0.05$ ) between craving total score in ACS-3F and the motivational value of alcohol cues [MVAC]. With regards to craving, the group of relapsers did not correlate with startle modulation.

**Conclusion:** ACS-3F has adequate properties of concurrent validity. Results in abstainers showed a good correlation between retrospective craving self-reported and non-conscious emotional response to alcohol cues.

## P0053

Differences in the modulation of the startle reflex in abstainers and relapsers alcoholics

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**Introduction:** The study of the acoustic startle reflex modulation in alcoholics subjects in the presence of positive, aversive, neutral images and images related to alcohol consumption will allow us to measure the implicit affective valence of these cues.

**Objective:** To compare the emotional valence of the stimuli related to alcohol consumption between two groups of alcoholic patients (abstainers vs relapsers).

**Methods:** 55 alcoholic patients (29 abstainers and 26 relapsers) were exposed to acoustic startle test after three weeks of detoxification treatment. Difference between the amplitude of the startle reflex associated to images related to alcohol and the one associated to neutral images was used as dependent variable (motivational value of alcohol cues=startle amplitude in the presence of alcohol images-startle amplitude of neutral images).

**Results:** Abstainers patients showed a decrease of the startle reflex in the presence of visualization of alcohol associated stimuli compared to the registered ones in the presence of neutral stimuli ( $\mu=-0.041$ ). For the group of relapsers an increase ( $\mu=0.034$ ) of the amplitude of the startle reflex when they were exposed to alcohol related images was registered in contrast with the amplitude registered in the presence of neutral images. Differences between groups were significant ( $p<0.01$ ).

**Conclusion:** Abstainers process alcohol-related images as positive stimuli. Conversely, relapsers will stop processing alcohol-related images as appetizing or positive stimuli.