S-59-04

Street work with crack addicted patients in the North of Paris

A.-M. Pezous. *ECIMUD Service de Psychiatrie, Paris, France*

S-59-05

Resistant patients are not difficult patients. The role of compliance.

A. Gual. *Hospital Clinic Institute of Nervous System, Barcelona, Spain*

Objective: In Psychiatry in general, and in the addictions field particularly, Resistance to treatment has usually been approached from a simplistic point of view. Instead, compliance is often a key issue to which psychiatrists pay scarce attention. This presentation pretends to underscore the role of compliance in resistance to treatments.

Methods: Review of literature addressing the issue of compliance with treatments in both clinical and psychosocial treatment trials.

Results: Compliance rates are low for many medical diseases, where the average non-adherence rate is 25%. In the field of Psychiatry bad compliance may be higher than 40% in the short term, and reach even higher rates (64%) in the long term management of diseases like bipolar disorders. In the Addictions field, compliance is often at the heart of early drop-outs and bad outcomes. In clinical trials compliance with pharmacological treatment is usually low. Naltrexone trials have reported compliance rates between 78-43%, while in studies with unsupervised disulfiram compliance rates may be as low as 18%.

Conclusion: There's strong evidence supporting the fact that better compliance leads to better outcomes. Hence, minimizing drop-outs should always be a priority for clinicians. Ways of improving compliance include patient factors (reactance, self-management), doctor factors (empathy, psycho education), drug factors (dosage, side effects) and family factors (supervision).

Sunday, April 3, 2005

SS-03. Section symposium: Neuroimaging in addiction research

Chairperson(s): Andreas Heinz (Berlin, Germany), Sophia Frangou (London, United Kingdom)
14.15 - 15.45, Gasteig - Philharmonie

SS-03-01

Structural neuroimaging and neuropsychological impairment in alcohol dependence

L. Reed. *Institute of Psychiatry Psychological Medicine, London, United Kingdom*

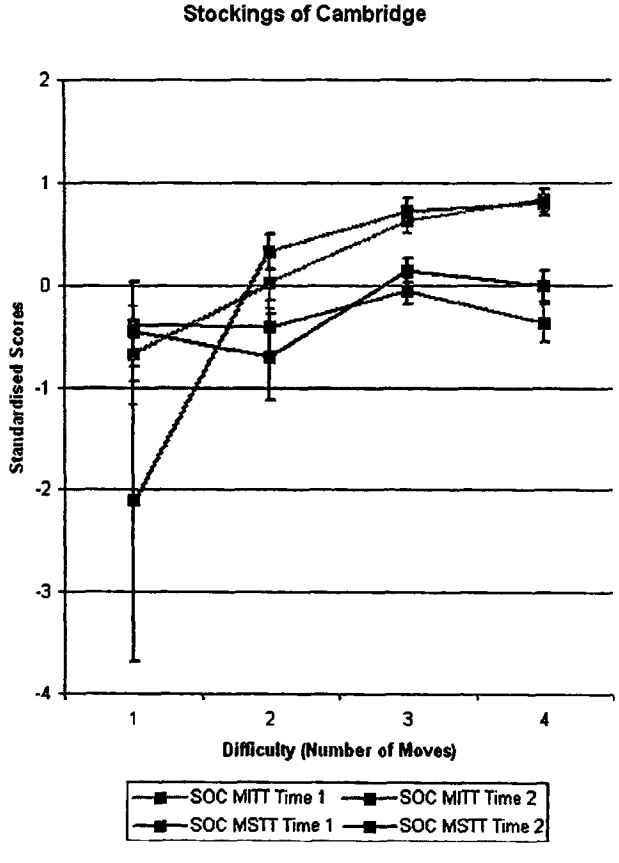
Objective: Alcohol dependence is associated with neuronal damage via direct and indirect mechanisms, detectable using magnetic resonance imaging (MRI) and associated with a range of cognitive impairments. The current pilot study examines neuropsychological functioning in a sample of alcohol dependent in-patients undergoing a medically-assisted alcohol withdrawal programme and aimed to investigate the trajectories of recovery of both memory and executive function deficits over the course of the treatment programme, and their association with MRI abnormalities.

Methods: Patients attending for inpatient medically assisted alcohol withdrawal completed neuropsychological assessment on days 1 – 5 and a second time on days 21 – 28. The neuropsychological battery comprised tests of general intellectual functioning, declarative memory function and executive function including the CANTAB Stockings of Cambridge SOC (planning ability) and Intra/Extra-dimensional Shift ID/ED - rule learning (non-verbal inhibition).

Results: The sample was predominantly male (19/30), mean age = 44.0 years, mean problem drinking history = 11.7 years. CANTAB subtests PAL (Paired Associate Learning) and PRM (Pattern Recognition Memory) at times 1 and 2 showed significant impairment and significant improvement over time, indicating partial recovery of memory function. The SOC subtest showed wide distribution of scores with some subjects markedly impaired on problems solved, there was no significant improvement over time for any measure.

Conclusion: Alcohol dependence is associated with substantial of deficits in memory and executive function which affect treatment compliance and understanding of complex treatments. While substantial improvements in memory, working memory and fluency tasks were observed by time 2, impaired planning and impulsivity measures were shown on CANTAB ED/ID and SOC tasks and showed no improvement over this time period. These latter deficits may indicate poorly reversible deficits in abstinence after alcohol withdrawal, and may predispose to relapse and may be associated with identifiable patterns of neuroimaging deficits particularly in ventrostriatal integrity.

Figure shows scaled scores (comparison with matched control data in units of standard deviation) for performance on the various levels of difficulty on the Stockings of Cambridge planning task. Mean initial thinking time (MITT), a measure of anticipatory :



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SS-03-02

Severity of nicotine dependence modulates cue-induced brain activity in regions involved in motor preparation and imagery

M. Smolka. *Cntral Institute of Mental Hea, Mannheim, Germany*

Objective: In nicotine dependent subjects cues related to smoking elicit brain activity in regions linked to attention, memory, emotion and motivation. Besides craving further determinants of cue reactivity and their impact on underlying neural systems are still unknown. Neither for nicotine nor for other drugs of abuse the influence of severity of dependence has been studied. We therefore investigated whether nicotine dependence gradually influences brain activation by visual smoking cues and how this is related to craving intensity.

Methods: Ten healthy male smokers with different degrees of nicotine dependence were investigated. To prevent nicotine withdrawal subjects were not nicotine deprived. Smoking cues and neutral visual stimuli were presented in a block design during functional magnetic resonance imaging (fMRI). The blood oxygen level dependent (BOLD) response to smoking cues was correlated with severity of nicotine dependence assessed with the Fagerström Test of Nicotine Dependence (FTND) and with self-reported cue-induced craving.

Results: Significant positive correlations between the BOLD activity and FTND scores were found in brain areas related to visuospatial attention (anterior cingulate cortex, parietal cortex, parahippocampal gyrus and cuneus) and in regions involved in motor preparation and imagery (premotor cortex, supplementary motor area). Intensity of cue-induced craving was significantly associated with greater neural activation in mesocorticolimbic areas engaged in incentive motivation and in areas related to episodic memory.

Conclusion: Our study suggests that severity of nicotine dependence and intensity of craving are independently associated with cue-induced brain activation in separate neuronal networks. The observed association of severity of nicotine dependence with neuronal cue-reactivity in regions involved in allocation of attention, automated motor preparation and imagery could be clinically relevant in terms of facilitating cue-induced relapse.

SS-03-03

A. Lingford-Hughes. *Division of Psychiatry, Univer, Bristol, United Kingdom*

SS-03-04

Neuroimaging and addiction

I. Crome, C. Newman, M. Frisher. *Department of Psychiatry Keele University Med. School, Harpfields, Stoke-on-Trent, United Kingdom*

The psychological framework of drug dependence consists of a complex array of behaviours. DSM IV and ICD 10 diagnosis criteria capture those that are core to the identification of addiction per se, but offer no account of their source. Recently, interest has moved towards decision making impairments as a possible core factor in addiction behaviour – with numerous theories offering explanation. These theories have been mostly behavioural economic theories based on observations of behaviours within Skinnerian experiments. However, evidence is gathering which suggests a positive link between these models and neurobioligical findings. A summary of recent work which includes the following will be discussed: - Damasio (1994) lesion studies are used to identify regions of the brain (more specifically limbic system regions involved with emotion and the ventromedial prefrontal cortex involved with planning - VMpfC) which are related to decision making. - Impaired decision making (poor future orientation and sensitivity to immediate rewards) has been shown in patients with VMpfC damage with the absence of any other detectable functional impairment. - Bechara designed a task which identified a particular behavioural pattern amongst patients with VMpfC – The Iowa Gambling **Task.** - Bechara and Damasio discovered that substance abusers presented with the same behavioural pattern as VMpfC patients, with no other functional impairment. - They suggest that the range of performance, within this task, is an indicator of degree of impairment and specific effect on decision making ability. A new avenue of research has opened ie the ability to identify level of neurological impairment through a behavioural task – when degree of impairment could indicate a potential risk factor for addiction, prognosis, treatment pathway and relapse risk – would prove an invaluable tool. The results from original research is still being validated, and refinements to the gambling task are needed before a true link can be made between its findings and behavioural economic theories – and this is what we are now undertaking at Keele University.

SS-03-05

Cue-induced craving in alcohol dependent patients: Modality specific fMRI of therapeutic intervention

F. Schneider, W. Wölwer, V. Backes, K. Zilles, N. J. Shah. *Universitätssklinik Psychiatrie und Psychotherapie, Aachen, Germany*

Objectives: Craving as a central construct in addiction theory has become a major interest in imaging research. Cue-reactivity paradigms are used in imaging studies to elicit craving and provide important information about possible predictors of relapse.

Methods: A well-established olfactory cue-reactivity paradigm was enhanced by adding a comparable visual design. The study was performed on alcohol-addicted subjects shortly after they finished detoxification and and repeated after four weeks. During these four weeks the subjects received placebo-controlled pharmacotherapy in combination with psychotherapy. A group of matched healthy controls was examined two times with a four week interval.

Results: Preliminary results of this ongoing study demonstrate the chosen paradigm as capable of illustrating therapeutic effects during this four week interval. Furthermore, first hints to evidence of modality-specific activations of these cue-reactivity paradigms were demonstrated.

Conclusions: Cue-reactivity paradigms are of great importance for addiction research. They are capable of providing information on risk factors for relapse. Increased awareness of possible modality specific effects in cue-induced craving seems necessary. More attention to these effects could lead to a promising way of integrating some still inconsistent imaging results in addiction research.

Tuesday, April 5, 2005

W-17. Workshop: Addictive behaviours across the lifespan of a doctor

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