Results First results are expected in 2016 with further major findings following in 2019.
Conclusions The MILESTONE project will provide unprecedented information on the nature and magnitude of problems at the CAMHS-AMHS interface, and potential solutions to overcome these.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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Future experts on the floor: Young researchers in addiction

W09

Neurostimulation in alcohol dependence: The effect of repetitive transcranial magnetic stimulation on brain function and craving

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Background Alcohol dependence has long been related to impaired processing and handling of negative emotions. This is the first study to compare emotion regulation (ER) at a behavioral and neural level in alcohol dependent patients (ADPs) and healthy controls (HCs). It also examines the effects of high-frequency repetitive transcranial magnetic stimulation (rTMS) on ER abilities and related craving levels in ADPs.
Method Thirty-six ADPs and 32 HCs matched on age, sex, and education, were included in a within-subject fixed-order study with one functional magnetic resonance imaging (fMRI) session and one rTMS plus fMRI session, with high-frequency (10 Hz) rTMS over the right dorsolateral prefrontal cortex (dlPFC). An fMRI emotion regulation task (ERT) was administered during both sessions and craving was measured before and after each ERT.
Results ADPs were impaired in the regulation of negative emotion and showed a higher activation of ER related brain areas compared to HCs. Furthermore, active rTMS improved ER abilities in both ADPs and HCs, but was accompanied by a decrease in anterior cingulate and left dlPFC activity only in ADPs. In addition, the ERT-induced increase in craving levels in ADPs was trend-significantly reduced by active rTMS, with a large effect size.
Conclusions ADPs are impaired in the regulation of negative emotion and show enhanced neural activity in the ER brain circuit. High-frequency rTMS improves ER in ADPs and HCs and normalizes neural activity and tends to reduce craving in ADPs. Future studies are needed to test the long-term effects of (multiple session) rTMS on ER, craving, and drinking.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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W10

The impact of appetite regulating peptides on substance use disorders

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Background Preclinical and clinical data suggest modulating effects of the appetite regulating peptide ghrelin on food intake. Recent data suggest that in food intake the "endostatic" energy-homeostatic systems of the lateral hypothalamus (LH) and the motivational, mesolimbic reward system operate in dynamic interplay with each other. Ghrelin receptors have been detected in the ventral tegmentum of the midbrain (VTA), where they modulate the activity of dopaminergic neurons projecting to the NAc. Assuming that Ghrelin modulate mesolimbic reactivity, the question remains: is this only the case in response to food cues? Or is this the case in response to reward-associated cues in general (including those related to nicotine and alcohol)?
Methods Study 1: a consecutive sample of 61 alcohol-dependent male inpatients was included. Blood was drawn at onset of withdrawal 12-24 hours after admission, and following 14 days of controlled abstinence in order to assess plasma concentrations of both active and total ghrelin. In parallel, we assessed alcohol craving applying the Obsessive Compulsive Drinking Scale (OCDS) as well as symptoms of depression (Beck Depression Inventory [BDI]) and anxiety (State Trait Anxiety Inventory [STAI]). The severity of alcohol dependence was assessed with the Alcohol Dependence Scale (ADS). Study 2: 54 non-treatment seeking smokers and 30 healthy controls with normal eating behavior, as measured by the Three Factor Eating Questionnaire (TFEQ) participated in this study. We measured plasma concentrations of both active and total ghrelin, using a blood sample taken two hours after a standardized meal during early nicotine abstinence in the smoking group. Additionally we quantified severity of addiction in the smoking group using the number of cigarettes smoked per day, cotinine plasma concentration and the Fagerström Test for Nicotine Dependence (FTND).
Results Study1: we found a significant positive correlation between the plasma concentration of active ghrelin and alcohol craving in both blood samples. Plasma concentrations of active ghrelin increased significantly during early abstinence. In a linear regression model, the plasma concentration of active ghrelin on day one, the scores of the ADS, and the BDI explained 36% of the variance in OCDS sum score ($P < 0001$). By day 14, these same factors accounted for 54% ($P < 0.0001$). We did not detect any association between the plasma concentration of total ghrelin and patients' alcohol cravings. Study 2: plasma concentration of acetylated ghrelin but not total ghrelin was significantly higher in smokers than in non-smokers. Moreover, we found significant negative correlations between acetylated ghrelin and all measures of the severity of nicotine dependence.
Discussion In conclusion, both studies supports the general idea that ghrelin's central effects go beyond the endostatic regulation of energy homeostasis, also involving pathways underlying reward expectation and craving. Physiologic factors modulating the reactivity of mesolimbic pathways represent an important research topic for developing pharmacologic treatments for disorders characterized by altered reward-related behaviors, such as substance use disorders and behavioral addictions.
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W11

Novel psychoactive substances

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Over the last decade, the "traditional" drug scene has been supplemented – but not replaced – by the emergence of a range of novel psychoactive substances (NPS), which are either newly created or existing drugs, including medications, now being used in novel ways. By the end of 2015, in excess of 700 NPS had been reported by a large number of countries in the world. Most recent data show however that synthetic cathinones; synthetic cannabinoids; and psychedelics/phenethylamines; account for the largest number of NPS. Given the vast range of medical and psychopathological issues associated with the molecules here described, it is crucial for health professionals to be aware of the effects and toxicity of NPS. The "Drugs 2.0." revolution facilitated the birth and growth of an "Online Drug Culture" which finds its main expression in chats/fora/blogs as well as the diffusion of online drug marketplaces (both in the surface and deep web). The web has progressively modified the drug market from a "street" into a "virtual" one, so by increasing the availability of new drugs/NPS/"legal highs" ("legal alternatives" to the traditional illegal drugs). The rapid pace of change in the NPS online market constitutes a major challenge to the provision of current and reliable scientific knowledge on these substances. The present lecture aims at providing an overview of the NPS phenomenon, also giving an overview of the main clinical and pharmacological issues relating to these most popular NPS categories.

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W12

Translational perspectives in addiction psychiatry

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Background Heritable factors account for approximately 50–60% of the risk for alcohol dependence. However, which genes confer this risk remains to elucidate. Moreover, genetic association studies are hampered by non-replication. Several strategies can be applied to approach this issue. One option is the application of intermediate phenotypes. Neurobiological measures that are closely related to the addiction phenotype may be more directly related to genetic variation. Intermediate phenotypes related to dopamine function seem particularly suitable, given the strong dopamine hypothesis in addiction. Another strategy is to include environmental factors, such as childhood adverse experience, in genetic association studies. We tested the effect of *COMT* Val158Met and *DRD2* Taq1A genotypes, as modulators of brain dopamine function in the context of self-reported environmental factors, like childhood adverse experience.

Methods Alcohol-dependent patients ($n = 110$) and healthy controls ($n = 99$) were genotyped for the *COMT* Val158Met and *DRD2* Taq1A genotypes. Childhood adversity was measured using self-report questionnaires. Dopamine sensitivity was assessed using an apomorphine challenge with cognitive performance and plasma growth hormone levels as main outcome measures.

Results *COMT* genotype modulated the effect of apomorphine on cognitive performance, but was not directly associated with alcohol dependence. Yet, the interaction between childhood adversity and *COMT* genotype did predict alcohol dependence. *DRD2* genotype modulated the effect of apomorphine on plasma growth hormone levels and was also not directly associated with alcohol dependence. Yet, the interaction between parental rule setting and *DRD2* genotype did predict alcohol use in a separate population-based sample of adolescents.

Conclusion This study provides evidence for a role of *COMT* and *DRD2* genotypes in alcohol dependence using both the GxE and intermediate phenotype approach. This confirms that both an intermediate phenotype approach and GxE interaction analyses can be useful tools in understanding mechanisms mediating addiction vulnerability. The clinical relevance of dopamine genes and intermediate phenotypes for staging and profiling of alcohol use disorders remains to be investigated.

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Getting started: The first steps in psychiatric consultations

W13

Short-term psychotherapeutic interventions in consultation-liaison psychiatry

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Due to a reduction in length of hospital stay of general hospital inpatients, CL-psychiatrists find themselves confronted with the problem of "less time to do more". This presentation will first outline procedural aspects of CL-psychiatry, delineating its development from the "situational approach" do becoming case managers. Then, short-term supportive interventions will be discussed with regard to their applicability and newer disorder specific techniques, such as ACT and DBT will be demonstrated in their usefulness for the medically ill.

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W14

The magic list of everyday problems in consultation-liaison psychiatry (and hints for solving them)

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Introduction Consultation-liaison psychiatry (CLP) deals with clinical, research and training activities at the interface between psychiatry and the rest of medicine. The main clinical competencies of CLP include medical-psychiatric comorbidity (co-existing psychiatric and non-psychiatric disorders affecting reciprocally); medically unexplained physical symptoms, "somatization" and functional disorders; and liaison activities, addressed to medical workers and teams.

Objectives/aims To describe and discuss typical clinical scenarios that CL psychiatrists have to work in, and suggest effective, evidence-based solutions.

Methods Long-standing everyday clinical experience of the authors combined to evidence derived from international literature consented to create a list of the most common and complex problems or difficulties typical of the CLP clinical context, and related possible solutions.

Results Most common/complex problems include the following: stigma and prejudice (of patients, relatives, colleagues, and own); excessive technicality of language; short/unpredictable duration of hospital stay of patients, and more in general pressure in clinical