SWISS ADDICTION RESEARCH DAY

JUNE 24, 2022 BERN, SWITZERLAND

BOOK OF ABSTRACTS

CONFERENCE LOCATION

THE HOUSE OF «ZUM ÄUSSEREN STAND» ZEUGHAUSGASSE 17, 3011 BERN



•S•S•A•M• - •S•A•P•P•

chweizerische Gesellschaft für Suchtmedizin - Sektion Psychiatrie und Psychotherapie der Abhängigkeitserkrankung Societé Suisse de Médecine de l'Addiction - Section de Psychiatrie et de Psychotherapie des Dépendances Societé Svizzera di Medicina delle Dipendenze - Sezione di psichiatria e psicoterapia delle dipendenze

WELCOME

Dear colleagues, dear friends,

After the unfortunate cancellation of the date in geneva, i have the great pleasure on behalf of the swiss society of addiction medicine (ssam) to welcome you the 24 june 2022 in bern to the 8th swiss addiction research day. This event is not only a welcome opportunity to exchange ideas in person after months of isolation due to the pandemic, but also an opportunity to get an overview of some current scientific developments in the field of addiction. For this year, a focus topic has emerged that has a certain tradition in switzerland: research on psychedelics.

The swiss addiction research day will take place in the house of «zum äusseren stand», zeughausgasse 17, 3011 bern on 24 june 2022.

Traditionally, the research day of the ssam has afforded an opportunity to honour superior accomplishments in the field of addiction research. For the sixth time, the swiss addiction research award (sarda) will be handed over on the occasion of our research day to excellent scientists in order to honor their outstanding performance.

I would therefore like to welcome you to bern

Daniele Zullino

ORGANIZING SCIENTIFIC COMITTEE: LOUISE PENZENSTADLER (GENEVA) GABRIEL THORENS (GENEVA) GERARD CALZADA (GENEVA) DANIELE ZULLINO (GENEVA)

PROGRAM

Time	PRESENTATORS / AFFILIATION	TITLE
10h00	Introduction	
10h05	Federico Seragnoli. Geneva University Hospital, Division of Addiction Medecine	Protocole presentation: Psychedelic Relaunch of Diaphin Assisted Treatment: a randomised, double- blind, active-placebo controlled phase II study
10h20	Clément Ciccone. CHUV, Department of Psychiatry	Psychedelics use among young men with unhealthy alcohol use : Is there an association with future drinking outcomes ?
10h35	Lousiana Deligianni. CHUV, Service de Médecine des Addictions	Altered States of Consciousness in a cohort of young Swiss men: associations with substance use and personality traits
10h50	Pause	
11h05	Caroline Schmitt-Koopmann- CHUV, Service de Médecine des Addictions	Switzerland's narcotics regulation jungle - OAT and off-label use in the Romandie
11h20	Maximilian Meyer, University Psychiatric Clinics Basel	An observational study on nasal diacetylmorphine treatment - preliminary results
11h35	Anna-Chiara Schaub, University Psychiatric Clinics Basel	Brain changes in opioid-dependent subjects after prolonged diacetylmorphine treatment: 9 years of observation
12h00	Lunch break	
13h00	Sara L. Kroll, Department of Psychiatry, University of Zurich	Chronic cocaine users show altered glucocorticoid and endocannabinoid levels in hair
13h15	Francesco Bavato, Department of Psychiatry, University of Zurich	Neurofilament light chain as a novel blood marker of substance-related brain pathology : a longitudinal investigation in chronic cocaine users
13h30	Franciska Brezan, Arud Centres for Addiction Medicine	Prolonged dam-take-home in times of covid-19: harm reduction or increase?
13h45	Maximilian Meyer, University Psychiatric Clinics Basel	Exploring why patients in heroin assisted treatment are getting incarcerated - a qualitative study
14h00	Vanessa Fleury, Geneva University Hospital, Department of Neurology	Dopamine and Heroin: Clinical and imaging evidence for a common final path to addiction
14h15	Pause	
14h30	SARDA	

PROTOCOLE PRESENTATION: PSYCHEDELIC RELAUNCH OF DIAPHIN ASSISTED TREATMENT: A RANDOMISED, DOUBLE-BLIND, ACTIVE-PLACEBO CONTROLLED PHASE II STUDY

Federico Seragnoli Psychologue FSP - PhD Candidate Hôpitaux Universitaires de Genève. Service d'addictologie. Dpt. de psychiatrie

Psychedelic-Assisted Psychotherapy (PAP) is resurging as a promising approach to treat a variety of psychiatric conditions including addiction disorder. The subjective experience, which is felt during the altered state of consciousness, seems to be an important factor in relieving the symptoms of these pathologies. The aim of this study is to investigate the rise of alternative cognitive and emotional states in opiate addicted patients using the serotonergic psychedelic drug LSD (Lysergic Acid Diethylamide). The study will include 30 participants allocated to one of two intervention arms, consisting in two dosing sessions, 4 weeks apart: one treatment arm and one active placebo arm. The primary outcome will be observed using the Possible Selves Questionnaire and other psychological and physiological measures will be taken pre and post treatment. The psychedelic effects may thus facilitate the reframing of unfavorable cognitive schemes and self-concepts, giving birth to newly imagined possible selves in the patient.

ABSTRACT 2

PSYCHEDELICS USE AMONG YOUNG MEN WITH UNHEALTHY ALCOHOL USE : IS THERE AN ASSOCIATION WITH FUTURE DRINKING OUTCOMES?

Clément Ciccone CHUV, Department of Psychiatry Recent studies suggest associations between the use of psychedelic substances and a reduction in unhealthy alcohol use. However few longitudinal studies have assessed this topic. The purpose of the present study was to assess whether, in a population of Swiss males reporting unhealthy alcohol use at age 20, psychedelics use for the first time at age 21 was associated with subsequent unhealthy alcohol use and alcohol use disorder (AUD) at age 25. Data were drawn from a cohort of N=7556 young Swiss men.1940 participants were eligible for analysis. Associations were assessed with logistic regression models adjusted for age, education level, linguistic region, tobacco, and other substance use. In adjusted analysis, those who reported a first use of psychedelics at age 21 were less likely to report unhealthy alcohol use at age 25 (OR = 0.54, 95% CI = 0.31 - 0.93) compared to those who never used psychedelics. Regarding the presence of an AUD at age 25, the association was not significant.

ALTERED STATES OF CONSCIOUSNESS IN A COHORT OF YOUNG SWISS MEN: ASSOCIATIONS WITH SUBSTANCE USE AND PERSONALITY TRAITS

Lousiana Deligianni CHUV, Service de Médecine des Addictions Substance-induced altered states of consciousness (ASC) have mainly been studied among users of psychedelics but not among people using street drugs.

Aims : Explore occurrences of different types of substance-induced ASC and their perceived influences on life, together with their associations with substance use and personality correlates in a general population sample of 25-year-old men.

Methods :2796 young Swiss men lifetime substance users completed a self-report questionnaire including history of use (never, former, current) of different substances categories (psychedelics, cocaine, psychostimulants, ecstasy, MDMA, other drugs), the ASC types of oceanic boundlessness (OBN), visual restructuralization (VRS), and dread ego-dissolution (DED), the influence of ASC experiences on life, and personality traits (sensation seeking, sociability, anxietyneuroticism, aggression-hostility).

Results : 32.2% reported at least one ASC, with 20.5% reporting OBN, 16.7% VRS, and 14.5% DED. Former and current use of psychedelics and ketamine was significantly associated with occurrences of all ASCs and with a positive influence of ASCs on life. Associations between the former and current use of other substances and the different types of ASCs were less consistent, and perceived influences on life were not statistically significant. Sociability was negatively associated with occurrences of all ASCs. Positive associations were found between anxiety-neuroticism and OBN and DED, between aggression-hostility and DED, and between sensation seeking and OBN and VRS.

Conclusions : This study supports the potential for psychedelics to induce ASCs perceived as beneficial to life among people using street drugs, possibly reflecting the mechanism underlying the therapeutic potential of psychedelics.

ABSTRACT 4

SWITZERLAND'S NARCOTICS REGULATION JUNGLE -OAT AND OFF-LABEL USE IN THE ROMANDIE

Caroline Schmitt-Koopmann CHUV, Service de Médecine des Addictions Controlled Medicines are products that meet the legal definition of both a "narcotic" under the Narcotics Act and of a medicine under the Therapeutic Products Act in Switzerland. We examined how similar, respectively how different, the implementation of controlled medicines regulations is throughout the Romandie. Based on a legal analysis of the cantonal regulations, we conducted semi-structured interviews with the Cantonal Pharmacists and Cantonal Physicians. Our mapping of the controlled medicines regulation implementation can serve as a basis for cantons to review their practices.

AN OBSERVATIONAL STUDY ON NASAL DIACETYLMORPHINE TREATMENT - PRELIMINARY RESULTS

Maximilian Meyer University Psychiatric Clinics Basel Heroin-assisted treatment comprises the use of pharmaceutical heroin in severely opioid dependent individuals. Since its introduction in Switzerland in 1994, diacetylmorphine ("heroin", DAM) has been approved for intravenous and oral use. Whereas intravenous DAM provides a fast onset of effect and a strong rush, the euphoric effects of oral DAM are mild in comparison. Hence, many patients in heroinassisted treatment continue to inject DAM either intravenously (onlabel) or intramuscularly (off-label). However, patients who primarily snorted illicit heroin and are therefore not eligible for injectable DAM often do not respond to the effects of oral DAM and drop out of treatment. Additionally, the opioid dependent patient population in Switzerland is ageing, underlining the need for safer novel routes of administration. This talk presents the preliminary results of a multicentre observational study on nasal diacetylmorphine treatment in Switzerland.

ABSTRACT 6

BRAIN CHANGES IN OPIOID-DEPENDENT SUBJECTS AFTER PROLONGED DIACETYLMORPHINE TREATMENT: 9 YEARS OF OBSERVATION

Anna-Chiara Schaub (1) Marc Vogel (1) Sophie Baumgartner (1) Undine Lang (1) Stefan Borgwardt (2) André Schmidt (1) Marc Walter (3.4)

 University of Basel, Department of Psychiatry (UPK), Basel, Switzerland
University of Lübeck, Department of Psychiatry and Psychotherapy, Lübeck, Germany
Psychiatrische Dienste Aargau, Windisch, Switzerland

4 University of Basel, Faculty of Medicine, Basel, Switzerland

New treatment approaches for opioid-dependent subjects include injectable opioid agonist treatment with diacetylmorphine (DAM). While evidence has shown beneficial clinical effects of DAM, it is still not clear how long-term DAM affects the brain. Therefore, this study focuses on the long-term effects of DAM on resting-state functional connectivity. We included 22 opioid-dependent subjects treated with DAM and 9 healthy controls that underwent two MRI assessments approximately 9 years apart. For the patients, the assessments took part shortly after the DAM intake to explore changes in resting-state functional connectivity in brain regions related to the stage of binge and intoxication (caudate, putamen, nucleus accumbens). A cluster in the right superior frontal gyrus was detected, showing an increase in functional connectivity originating from the left caudate and the left accumbens in patients but not in healthy controls. These connectivity changes in patients were related to the duration of the DAM treatment, indicating smaller increases in functional connectivity with longer DAM treatment. These results suggest that long-term DAM treatment in opioid-dependent subjects increases fronto-striatal connections, an effect that is related to the duration of the treatment. Future research needs to further address the wide-ranging effects of DAM and deepen the understanding of the underlying mechanisms to be able to provide the best possible treatment for opioiddependent subjects.

CHRONIC COCAINE USERS SHOW ALTERED GLUCOCORTICOID AND ENDOCANNABINOID LEVELS IN HAIR

Clarissa D. Voegel (a,1) <u>Sara L. Kroll</u> (b,c,1) Marc W. Schmid (d) Ann-Kathrin Kexel (b) Markus R. Baumgartner (a) Thomas Kraemer (e) Tina M. Binz (a,2) Boris B. Quednow (b,f,2)

a Center for Forensic Hair Analytics, Zurich Institute of Forensic Medicine, University of Zurich, Zurich, Switzerland b Experimental and Clinical Pharmacopsychology, Department of Psychiatry, Psychotherapy, and Psychosomatics, University of Zurich, Switzerland c Center for Social and Affective Neuroscience. Department of Biomedical and Clinical Sciences, Linköping University, Sweden d MWSchmid GmbH. Hauptstrasse 34. Zurich. 8750 Glarus, Switzerland e Department of Forensic Pharmacology and Toxicology, Zurich Institute of Forensic Medicine. University of Zurich. Zurich. Switzerland

f Neuroscience Center Zurich, University of Zurich and Swiss Federal Institute of Technology Zurich, Switzerland

1 Shared first authorship. 2 Shared senior authorship Stress has been proposed as a crucial risk factor for developing drug addiction and relapse, consequently maintaining the vicious circle of drug addiction. Accordingly, animal and human studies have demonstrated the importance of the hypothalamic-pituitary-adrenal (HPA) stress-axis in cocaine addiction. A growing body of work indicates that the endocannabinoid (eCB) system is also involved in the regulation of stress response and recent preclinical studies suggest that the eCB system might play an important role in addictive behaviour because of its stress-buffering effects. However, studies investigating neuroendocrine markers of sustained stress in hair of cocaine users are scarce so far. Therefore, the aim of the present study was to assess potential alterations of the HPA-axis and the eCB system in chronic cocaine users using an advanced hair analysis approach. We compared hair concentrations of glucocorticoids (cortisol and cortisone) and the eCBs: 2arachidonylglycerol (2-AG), anandamide (AEA), oleoylethanolamide (OEA), and palmitoylethanolamide (PEA) between chronic cocaine user (N=73; 48 recreational users and 25 dependent users) and stimulant-naïve healthy controls (N=67). Participants were assessed using a substance use interview and a 3-months toxicological hair screening. In brief, we found higher concentrations of hair cortisone and lower hair concentration of the endocannabinoids OEA and PEA in chronic cocaine users compared to controls. Elevated cocaine hair concentration was a significant predictor for both, increased glucocorticoids (cortisol and cortisone) as well as decreased OEA hair levels. Results will be presented and discussed in more detail at the conference

ABSTRACT 8

NEUROFILAMENT LIGHT CHAIN AS A NOVEL BLOOD MARKER OF SUBSTANCE-RELATED BRAIN PATHOLOGY : A LONGITUDINAL INVESTIGATION IN CHRONIC COCAINE USERS

Francesco Bavato, Experimental and Clinical Pharmacopsychology, Department of Psychiatry, Psychotherapy and Psychosomatics. Psychiatric University Hospital Zürich. University of Zürich The recent introduction of new generation, high-sensitive blood assay methods, allows us the investigation of novel markers of structural brain integrity with low-invasive procedures. In particular, neurofilament light chain (NfL) levels in blood are strongly related to active neuro-axonal pathology in a wide range of clinical and physiological conditions. To date, longitudinal studies on NfL levels in the addiction field are still lacking. We therefore investigated NfL levels in blood of 35 chronic cocaine users (CU) and 35 stimulant-naïve healthy controls (HC) at baseline and at a 4-month follow-up. Cocaine use intensity was determined by hair testing at both time points. In brief, we found elevated NfL levels in CU compared to HC. Moreover, change (increase/decrease) of cocaine use over the 4-months interval measured by hair testing predicted NfL levels at follow-up. Results will be presented and discussed in more detail at the conference.

PROLONGED DAM-TAKE-HOME IN TIMES OF COVID-19: HARM REDUCTION OR INCREASE?

<u>Brezan F</u> (1) Falcato L (1) Montagna J (1) Bruggmann P (1)

1 Arud Centres for Addiction Medicine

Background: The maximum allowed take-home prescription of diacetylmorphine (DAM) for heroin assisted treatment in Switzerland was extended in the context of the Corona pandemic by the government from two to six days. Our institution implemented the extended delivery for all patients assessed as stable by the therapists. Methods: To assess the consequences of prolonged take-home prescription, 134 DAM patients were studied in a retrospective medical record analysis by comparing the year before with the year after the change in delivery practice. Potential predictive factors examined were gender, age, use of DAM i.v., and prescription of stimulants, benzodiazepines, antidepressants, or neuroleptics. As consequences of extended delivery, the respective number of additional DAM dispensing events, emergency hospitalizations, antibiotic therapies, and number of jail stays were compared. Results: Prolonged take-home prescription was not associated with significant changes in DAM dosing (p = 0.418), emergency hospitalizations (p = 0.267), antibiotic therapies (p = 0.202), or jail stays (p = 0.181). The mean number of additional DAM dispensing events increased from 0.33 to 0.98 (p = 0.005) over the years. In 106 (79.1%) of 134 patients, prolonged take home was maintained throughout the year. Multiple regression analysis showed that i.v. use of DAM (OR = 2.98 CI-95: 1.23 – 7.23) and benzodiazepine prescription (OR = 2.74, CI-95: 1.11 - 6.75) were associated with reduction of takehome prescription. Age, gender, dosage of DAM, other prescribed medications had no effects. Mean number of additional DAM dispensing events was 0.56 in the group with maintained take-home vs. 2.57 in the group with reduced prescription (p = 0.005). Conclusion: Most patients - especially those without i.v. use or benzodiazepines - used their 6-day supply of oral DAM without negative effects on therapeutic and somatic stability. Our study does not provide any evidence against maintaining the extended delivery practice beyond the pandemic.

ABSTRACT 10

"EXPLORING WHY PATIENTS IN HEROIN-ASSISTED TREATMENT ARE GETTING INCARCERATED - A QUALITATIVE STUDY"

Maximilian Meyer University Psychiatric Clinics Basel Heroin-assisted treatment has proven effective in reducing criminal offenses in opioid dependent individuals. However, the reasons why these patients keep offending and getting incarcerated are unclear. In this study, patients in heroin-assisted treatment with a history of incarcerations (n=22) participated in semi-structured narrative interviews. Findings were evaluated with Mayring's qualitative content analysis framework. Additionally, the Montreal Cognitive Assessment test and the multiple-choice vocabulary intelligence test were employed to assess cognitive impairment and premorbid intelligence levels. In this talk the main categories of the qualitative analysis are presented and discussed in the context of the cognitive impairment and the premorbid intelligence levels found in the sample

DOPAMINE AND HEROIN: CLINICAL AND IMAGING EVIDENCE FOR A COMMON FINAL PATH TO ADDICTION

Vanessa Fleury (1,2) Elvira Pirondini (3) Céline Provins (3) Damien Benis (1,4) Gabriel Thorens (5) Astrid Kibleur (1) Sabina Catalano Chiuvé (1) Pierre R. Burkhard (1,2) Daniele Zullino (5) Dimitri Van de Ville (3) Paul Krack (6)

 Department of Neurology, Geneva University Hospital, 1211 Geneva, Switzerland;
Faculty of Medicine, University of Geneva,
CMU, 1211 Geneva 4, Switzerland;
Institute of Bioengineering EPFL, Campus Biotech, 1202 Genève, Switzerland;
Department of Psychology and Educational Sciences and Swiss Centre for Affective Sciences, University of Geneva, Switzerland;
Department of Psychiatry, Geneva University Hospital, 1211 Geneva, Switzerland
Parkinson's Disease and Movement Disorders Center, University Hospital Bern, 3010 Bern, Switzerland. Background: Parkinson's disease (PD) patients on dopaminergic replacement therapy are at increased risk of developing behavioral addictions, with a prevalence of impulsive control disorder behaviors ranging from 8.5 to 39%. The question of how dopaminergic replacement therapy contributes to the occurrence of addictions in PD patients remains incompletely understood. Objectives:

- 1.To identify common clinical and imaging abnormalities in PD patients and heroin-dependent (HD) patients compared with healthy controls (HC) in order to better understand the pathophysiology underlying neuropsychiatric symptoms in PD and substance addiction.
- 2. To determine the role of levodopa on cerebral activation abnormalities associated with reward, emotional and executive processings.

Methods: We compared 19 PD patients with motor and neuropsychiatric fluctuations with 17 sex-matched HD patients and 28 sex- and age-matched HC. Participants underwent a detailed neuropsychological assessment during their chronic ON-drug state, as well as a functional MRI (fMRI) at rest. PD patients were examined clinically and with resting-state fMRI in a crossover design under two treatment conditions (ON-drug and OFF-drug state). HD patients and HC participants were studied in only one condition (ON-drug for HD). From the fMRI time-courses, we extracted co-activation patterns (CAP) of the striatum and we analyzed their temporal and spatial characteristics. We correlated CAP analysis with clinical measures. Then we looked whether these changes in CAP occurrence correlated with neuropsychiatric fluctuations between ON-drug versus OFF-drug PD patients.

<u>Results</u>: Compared with HC, PD and HD patients presented with common behavioral features with: i) a higher impulsivity subscore "lack of perseverance" on the impulsivity scale, (ii) a higher degree of behavioral and substance addiction and iii) a higher score of depression. We found 4 CAP (i.e. brain activation clusters) with identical occurrence in the 4 groups (ON-drug and OFF-drug PD, ONdrug HD and HC). CAP 4 was specific for ON-drug HD and ON-drug PD, whereas CAP 1 was specific for PD, CAP 2 for ON-drug HD and CAP 3 for ON-drug PD. CAP 4 positively correlated the striatum with the reward and the salience networks, and negatively correlated the striatum with the self-directed network. Changes in the occurrence of CAP 3 and 4 correlated with clinical measures of degree of impulsivity and neuropsychiatric fluctuation scores.

<u>Conclusions</u>: Our results demonstrated some common clinical and functional connectivity alterations in HD and PD patients treated with dopaminergic replacement therapy, suggesting underlying neurobiological commonalities between the two disorders. Although PD and HD have opposing neural substrates (neurodegeneration in PD vs. gain of function in HD), PD and HD patients both present with alterations within the reward, salience and self-directed networks. We posit that PD on dopaminergic replacement therapy with neuropsychiatric fluctuations may be integrated into addiction models.



LOCATION

«ZUM ÄUSSEREN STAND» ZEUGHAUSGASSE 17 3011 BERN

Google Maps

