

for a clear pathophysiological mechanism and treatment remains elusive. Numerous studies aim to identify a metabolomic fingerprint for PD and new, promising biomarkers are discovered with implications beyond neurodegenerative diseases, such as novel markers as predictors of bipolar type in depressed patients. Changes in neuronal microenvironment employ electrochemical techniques, such as cyclic voltammetry, used in both animal and human models of PD to monitor dopamine (DA) alterations in vivo, with high spatial and temporal resolution.

Objectives: Our aim is to investigate the latest scientific literature on PD and associated neuropsychiatric disorders and review the applications cyclic voltammetry has in recent technological advances in the field.

Methods: To gain a broad understanding of the subject, we have consulted multiple scientific literature databases (PubMed, Google Academic, Science Direct) using the keywords “cyclic voltammetry, Parkinson’s disease, psychiatric disorders, dopamine” and included original research articles published in the last 10 years

Results: The first *in situ* measurement of DA release in the human brain has been demonstrated in a sequential investment task, with implications for future research in decision-making behavior.

One study combines cyclic voltammetry and wireless telemetry for in vivo recording of changes in extracellular levels of DA, with high temporal and spatial resolution.

Disulfide nanorod-graphene- β -cyclodextrin nanocomposites biosensors have been successfully used in detecting DA in rodent brain and human blood serum samples, with implications for minimally invasive measuring techniques.

Animal studies use cyclic voltammetry to monitor changes in DA levels in cerebrospinal fluid and plasma of mouse models of PD and investigate DA metabolism, release, uptake and receptor sensitivity in Knock-out mice, with implications for the diurnal variation of extracellular DA tone and release. Furthermore, a human alpha-synuclein-expressing mouse model of PD exhibited increased extracellular DA concentrations, decreased DA uptake and relieved paired-stimulus depression.

Conclusions: Cyclic voltammetry is a powerful tool in the expansion to humans of electrochemical recording techniques in PD. The final aim is to investigate DA neuron physiology before neurodegeneration onset and to measure neurotransmitter release in real time.

Disclosure of Interest: None Declared

EPV0248

Neuroradiological manifestations of drug use: description of clinical cases

I. Faria* and T. Silva

Psychiatry, Coimbra Hospital and University Centre, Coimbra, Portugal

*Corresponding author.

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Introduction: Drug use and misuse continue to create public health challenges in the world, leading to overdose deaths, infections, and other chronic health conditions. Illegal addictive drugs can lead to functional or structural impairment of the central nervous system (CNS). Because clinical findings alone are often nonspecific, and some patients are unlikely to admit substance abuse, the

neuroimaging may play an important role in establishing the diagnosis and initiating treatment.

Objectives: We aim to provide an overview of the structural imaging findings on computed tomography (CT), magnetic resonance (MR) imaging related to chronic and acute abuse of commonly addictive substances, including cannabis, alcohol, cocaine, and opioids.

Methods: Non systematic review of the literature on the subject and description of three clinical cases.

Results: Pathomechanisms of drugs misuse include excitotoxicity, which may lead to an acute or subacute leukoencephalopathy, and vascular complications, including vasoconstriction, vasculitis, or hypertension, which may lead to intracranial hemorrhage or ischemia. Alcohol abuse may lead to Wernicke-Korsakoff syndrome, revealing in MR bilateral symmetrical hyperintense signals on T2-weighted; Marchiafava-Bignami disease (MBD) is a very rare condition which may present hypodense lesions in the corpus callosum; and alcoholic cerebellar degeneration is a common type of acquired cerebellar ataxia and may present cerebellar volume loss localized to the anterior superior vermis. One of our clinical cases is a female, 39 years, and present cocaine induced multifocal leukoencephalopathy, associated with inflammatory/immune mediated mechanism. Other clinical case (female, 24 years) demonstrate spongiform leukoencephalopathy from “chasing” heroin, with a characteristic presentation.

Conclusions: The main pathomechanisms related to the abuse of drugs are ischemia, hemorrhage, and leukoencephalopathy related to excitotoxicity of the drug or its derivatives. Clinical findings are nonspecific, highlighting the need to recognize these complications at both CT and MR imaging. Therefore, diagnostic imaging modalities can play a pivotal role in the recognition and timely management of drug-related complications in the CNS.

Disclosure of Interest: None Declared

EPV0249

A TRANSDISCIPLINARY APPROACH TO THE TREATMENT OF DRY EYE DISEASE IN PATIENTS WITH PSYCHIATRIC DISORDERS

I. Bakija^{1*}, M. Bogadi², M. Tripković³ and S. Kaštelan⁴

¹Department for Integrative psychiatry, Psychiatry Clinic Sveti Ivan;

²Hospital for child and adolescent psychiatry; ³University Hospital Centar Zagreb and ⁴Department of ophthalmology, Clinical Hospital Dubrava, Zagreb, Croatia

*Corresponding author.

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Introduction: Dry eye disease (DED) is a multifactorial disease of the tear film and ocular surface representing one of the most common problems in ophthalmological practice and significant public health problem. Characteristic symptoms of DED include gritty, sandy foreign body sensation as well as visual disturbances that have a negative impact on the patient’s daily activities and also affecting patient’s quality of life (QOL).

Objectives: The objective of this research is to point out the importance of transdisciplinary approach to treatment of dry eye disease in patients with psychiatric disorders.

Methods: We reviewed all current available literature in Pubmed dealing with the topic of connection of dry eye disease and psychiatric disorders.

Results: In recent years, the relationship between DED and psychiatric disorders has been gaining attention. A number of epidemiological studies have reported a possible association between dry eye and psychiatric disorders showing that the subjective symptoms of dry eye can be affected not only by changes of the tear film and ocular surface but also psychological factors such as anxiety, depression, schizophrenia, post-traumatic stress disorder (PTSD) and subjective happiness. Apart from psychiatric disorders, psychiatric medications are also considered as risk factors for DED due to their influence on the tear film status. The incidence of ocular side effects increases rapidly with the use of polypharmacy, a very common form of treatment used in psychiatry.

Mental health disorders may be one of considerable contributing factors for dry eye symptoms and undiagnosed mental health conditions can be an influencing element for unexplained levels of DED symptoms. Depression, anxiety, stress, hypochondriasis, neuroticism, sleep and mood disorders may be associated with the exacerbation of symptoms to degrees that are not consistent with the objective signs related to tear dysfunction as well as changes in the anterior surface of the eye.

There is often inconsistency between signs and symptoms of DED, where symptoms often are more related to non-ocular conditions including psychiatric disorders than to tear film parameters. Consequently, in many cases DED may be considered as a psychiatric as well as ophthalmological problem. Psychiatrists and ophthalmologists need to be aware of the potential influence of psychiatric disorders and medications on tear film stability.

Conclusions: A detailed medical history, thorough ophthalmological examination and referral to a psychologist or psychiatrist may be essential in the treatment of those patients. In treatment of psychiatric patients, an integrative and transdisciplinary approach will result in better functioning and higher QOL.

Disclosure of Interest: None Declared

EPV0250

Contribution of a standardized Neuropsychomotor assessment (NP-MOT battery) associated to the WISC-V scale in order to better understand a dysgraphia impairment highlighted by a heterogeneous IQ profile in a High Intellectual Potential child

L. Vaivre-Douret^{1,2,3,4,5*}

¹Faculty of Health, Department of Medicine Paris Descartes, University of Paris Cité, Paris; ²INSERM Unit 1018-CESP, Faculty of Medicine, University of Paris-Saclay, UVSQ, Villejuif; ³Chair in Clinical Neurodevelopmental Phenotyping, Institut Universitaire de France (IUF); ⁴Department of Endocrinology, IMAGINE Institute of Necker-Enfants Malades hospital and ⁵Department of Child Psychiatry, Necker-Enfants Malades Hospital, AP-HP.Centre, Paris, France

*Corresponding author.

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Introduction: Many research studies and clinicians consider a heterogeneous IQ profile as a specific developmental characteristic to High Intellectual Potential (HIP), despite difficulties in

handwriting. We propose to illustrate by a case study, the interest of supplementing a scale IQ with a standardized neuropsychomotor assessment.

Objectives: We report the complex evaluation of a 8.5 years old boy with an IQ = 137, assessed HIP with a heterogeneous profile at the WISC-V but presenting a clumsiness with a dysgraphia (using the right hand) and difficulties in geometry. These disorders have been attributed by a psychologist to a fast thinking that can impact his graphomotor gesture. However, we aimed to better understand the gap between some IQ index scores.

Methods: We have conducted a complete standardized assessment of developmental neuropsychomotor functions (NP-MOT battery, Vaivre-Douret. Digital Ed Neuralix®, 2021; <https://neuralix-editions.com/>) with age-related normative data, and of neuropsychological functions, in addition an oculomotor examination (Eye-tracking).

Results: The IQ index scores are: VCI = 155, VSI = 108, FRI = 137, WMI = 138, PSI = 92. We found with the NP-MOT battery, a left-handed laterality and at the muscular tone examination, a motor dysfunction of the pyramidal tract on the left body distal side (mild spasticity) and oculomotor disorders of the visual pursuits, associated to visual-spatial motor and visual motor integration impairments.

Conclusions: It is a neurologically right-handed child because he can not effectively use his left hand to correctly write but he is not so good with the right hand to write. Moreover, he presents a visual-spatial motor subtype (< -2 SD) of developmental coordination disorder (DCD according the DSM-5) with oculomotor abnormalities, explaining his clumsiness and dysgraphia, and his difficulties in geometry. Thus, the subtests that make up VSI and PSI highlight a motor component (graphomotor, oculomotor, visuomotor) that should be analyzed in the light of additional neuropsychological and normed assessments of developmental neuropsychomotor functions.

Comorbidity of neurological and motor coordination disorders do not spare the child with a high intellectual potential, despite his high mental abilities helping him to compensate. It is important to complete the WISC-V scale by other investigations, particularly in the motor field, to explain the heterogeneity of the IQ profile with scattered index scales.

Disclosure of Interest: None Declared

EPV0251

ANXIETY-DEPRESSIVE DISORDER IN A PATIENT WITH GRAVES' DISEASE AND PSYCHOSOCIAL PROBLEMS

M. Betriu^{1*}, C. Becerra², S. Garcia¹, A. Vidal¹ and E. Castan¹

¹Subacute hospitalization unit, Hospital Sant Joan de Déu Lleida, Lleida and ²CSMA Tarragona, Institut Pere Mata, Tarragona, Spain

*Corresponding author.

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Introduction: There is clear evidence of the association of hypothyroidism with depression. It is known to be effective in some cases of adding triiodothyronine (T3) to antidepressant treatment in resistant depressive disorders. However, depression and anxiety can also be linked to hyperthyroidism.