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 succesfully 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

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doi: 10.1192/j.eurpsy.2023.1598

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: Pathomecanisms 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 leukoencephalotpathy 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

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doi: 10.1192/j.eurpsy.2023.1599

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.