EPV0543

Adverse psychological outcomes in Brugada syndrome: About a Tunisian familial pedigree from Sfax

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Introduction: Patients with Brugada Syndrome (BS), a rare inherited cardiac channelopathy, with an increased risk of developing arrhythmias, syncope and sudden cardiac death, also present serious adverse psychological outcomes that require medical support to improve their health and well-being as well as those of their families.
Objectives: Here we report psychological concerns of a Tunisian patient who presented to our genetic counselling, with his three children, for molecular exploration of BS type 1.
Methods: Clinical, electrical, biological and psychological characteristics of the patient and his offspring were identified. Cytogenetic exploration using RHG banding and molecular screening of SCN5a gene mutations using High Resolution Melting and sequencing were carried out. Subsequently, genetic counselling was undertaken for all the family members and psychological concerns were reported.
Results: A 51-year-old married man with an academic career was born from a consanguineous couple, with a family history of sudden cardiac death. He was diagnosed with BS1 based on the pathognomonic ST-segment elevation in leads V1–V3, after experiencing palpitations and syncope. He was treated by implantable cardioverter defibrillator. The patient was also being treated for diabetes and dyslipidemia. His children, a girl and two boys, were investigated by ECG, which revealed no electrical disorders. However, both boys reported chest pain on exertion. The 18-year-old girl presented with primary amenorrhea and infantilism, along with a Turner syndrome formula. Molecular analysis revealed none of the targeted mutations in the SCN5a gene. Psychologically, the patient had a phobia of death and reported painful sensations of imminent death at each palpitation. He was anxious about the clinical outcome of his children. The children reported anxiety about their autosomal dominant fathers' disorder.
Conclusions: Approximately 16% of BS patients experience depression and anxiety. More attention needs to be indorsed to the psychological distress of BG patients and their families.

Disclosure of Interest: None Declared

EPV0544

ZNF536 dysfunction enhances spontaneous differentiation of the SH-SY5Y cell line into a neuronal-like phenotype

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Introduction: Schizophrenia (SZ) is a common psychiatric neurodevelopmental disorder with a complex genetic architecture. Genomic association studies indicate the involvement of transcription factors in the pathogenesis of SZ. A recent GWAS showed a significant association of ZNF536 with SZ. To date, the molecular functions of ZNF536 are poorly understood and its possible role in the pathogenesis of SZ is unclear.
Objectives: The aim of this work was to develop a model cell line for study ZNF536-mediated pathogenic mechanisms associated with SZ.
Methods: To assess the spatial interaction of ZNF536 with SZ risk loci, we used the Capture-C method. For ZNF536 deletion, SH-SY5Y was sequentially transduced with two lentiviral vectors. The first expressed Cas9 under the control of a tetracycline regulated promoter and the second expressed a pair of sgRNAs for ZNF536 deletion. Puromycin was used to select transduced cells. Stably transduced cells were then treated with oxytetracycline to induce Cas9 expression. In parallel, SH-SY5Y were transduced with lentiviral constructs of Cas9 and sgRNA carrying a spacer lacking targets in the human genome to obtain a negative control. Individual clones were obtained by the limiting dilution method. The ZNF536 deletion was confirmed by PCR and Sanger sequencing.
Results: A spatial interaction of ZNF536 with SZ risk loci was found, suggesting its involvement in SZ pathogenesis. Using the CRISPR/Cas9 system, we obtained several clones with heterozygous deletion of ZNF536. We observed that their growth and proliferation were significantly slowed down. In addition, the mutant clones spontaneously differentiate into a neuron-like phenotype in low-serum medium.
Conclusions: We established a cellular model to study ZNF536-mediated mechanisms associated with SZ.

Disclosure of Interest: None Declared

Guidelines/Guidance

EPV0545

Korean Medication Algorithm Project for Bipolar Disorder 2022: Treatment Strategy According to Safety and Tolerability

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Introduction: Accordingly, the Korean Medication Algorithm Project for Bipolar Disorder (KMAP-BP) working committee, composed of domestic experts, developed Korea's first KMAP-BP in 2002 and later in 2006, 2010, and 2010. A revised version of KMAP-BP was announced every four years four times in 2014 and

2018.6-10). The treatment strategy considering the safety and tolerability of KMAP-BP 2022 was developed by collecting opinions from domestic bipolar disorder experts.
Objectives: Safety and tolerability of drugs are very important factors in the treatment of bipolar disorder. An expert opinion survey was conducted on treatment strategies in various special clinical situations, such as significant weight gain, characteristic drug side effects, low drug adherence, pregnant and reproductive women, and genetic counseling.
Methods: A written survey about treatment strategies related to safety and tolerability was prepared and focused on significant weight gain, characteristic drug side effects, low drug adherence, pregnant and reproductive women, and genetic counseling. Ninety-three experts of the review committee completed the survey.
Results: In the case of weight gain occurring during drug treatment, it was preferred to replace it with a drug that caused less weight gain, such as lamotrigine, aripiprazole, or ziprasidone. If there was a significant weight gain due to the treatment drug, it was preferred to intervene as soon as possible. In the case of hyperprolactinemia, it was selected to change the medication and discontinue it for benign rash caused by lamotrigine. In improving drug adherence, the preference for long-acting injections increased. Antipsychotics can be used with great caution in pregnant or reproductive women.
Conclusions: Treatment strategies in various clinical situations related to safety and tolerability in drug treatment for bipolar disorder were described. It is hoped that it will be useful in practical clinical situations.

Disclosure of Interest: None Declared

Intellectual Disability

EPV0546

Implementation in the Motek Caren system with virtual reality of an existing motor rehabilitation programme for people with Down's syndrome in order to increase its effectiveness

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Introduction: Down's syndrome often requires specialized rehabilitation methods in order to effectively improve cognitive and motor functioning. The growing interest in technologies to support rehabilitation is opening up new and promising perspectives for improving the quality of life of people diagnosed with this syndrome. One of these technologies is the Computer Assisted Rehabilitation Environment (CAREN) system from Motek.
Objectives: The aim of the planned research project is to explore the potential of using the CAREN system in the rehabilitation of people with Down's syndrome.
Methods: The study included 10 participants with Down's syndrome (men and women aged 18 to 50 years) without the presence of organic musculoskeletal disease or other somatic causes impairing motor performance. Before the training test, the participants were assessed by two psychological tests: 1) ACE III - Addenbrooke's Cognitive Examination III Scale (ACE-III), which assesses attention and orientation, memory, verbal fluency, language and visuospatial functions and 2) the TONI 4 Non-Verbal Intelligence Test, which is a test used to measure general intelligence. The tests were carried out using the MOTEK CAREN device, which consists of a treadmill for motor training and a virtual reality screen on which different scenes are displayed for the participant to see during the test. Integrated motion capture technology was used to assess movement capabilities of the patients.. The screen displayed different types of applications in the form of virtual reality, in which the participant had to cope with various tasks accommodating different psychomotor skills, for example:crossing a virtual bridge, walking through a forest. The test took about 45 minutes per person. Two training sessions were conducted for each of the 10 patients with a one-month interval between them.
Results: The Motek Caren System has proven to be a promising rehabilitation method for people with Down's syndrome, compared to previous experience with different rehabilitation methods and existing research in the field.
Conclusions: Results emphasize the necessity for further investigations and future research should involve more participants. The project has the potential to integrate modern technology with traditional forms of therapy to improve the quality of life and functioning of people affected by this syndrome.

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EPV0547

Quality of life in the people with disability: individual's perception

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Introduction: There are few studies about how people with intellectual disability (ID) perceive their own quality of life (QoL), with research being focus, mainly, in the opinion of caregivers and/or family. Thinking about QoL, the World Health Organization developed an instrument that measures QoL, the WHOQOL. In Brazil, this instrument was adapted, validated and translated for people with ID and their caregivers.
Objectives: The aim of this study was to increase knowledge and understanding of how people with ID perceive their own QoL.
Methods: This study was approved by the Ethics and Research Committee. Sample of 51 individuals aged between 19 and 54 years (G1), with medical diagnosis of ID, who did not present physical/mental disabilities and/or mental disorders and 31 caregivers (G2). G1 answered the WHOQOL-DIS-ID questionnaire and G2 answered the WHOQOL-DISID Proxy questionnaire. The results were statistically analyzed considering p-value $\leq$ 0.05.
Results: The individuals with ID presented higher score on the psychological and lower score in the discrimination domain. The caregivers presented higher scores on the physical and