testing using the Mini-Mental State Examination (MMSE). Additionally, they were medicated with rivastigmine (12 mg) and memantine (20 mg). The rTMS parameters for the 20-session protocol were as follows: for mild cognitive impairment, 110% motor threshold (MT), 10 Hz, and 2,000 pulses; for Alzheimer's diagnosis, 80% MT, 20 Hz, 1,200 pulses, 80% MT, 5 Hz, 600 pulses, and theta wave at 10 Hz, 110% MT, and 2,500 pulses. The results were tabulated, and consistent were drawn.

Results: Our findings showed that all the patients improved their levels of cognitive impairment.

Conclusions: Patients improved their cognitive impairment level with the combination treatment of antidementia drugs: cholinesterase inhibitors and memantine, along with repetitive transcranial magnetic stimulation (rTMS). Repetitive transcranial magnetic stimulation (rTMS) is a developing treatment, and further clinical studies are needed to confirm its potential in treating Alzheimer's disease and other neurocognitive disorders alongside antidementia medications.

P30: Effects of Cognitive Stimulation Combined with Transcranial Direct Current Stimulation on Cognitive Performance and Cortical Excitability in Amnestic Mild Cognitive Impairment

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Introduction: Transcranial Direct current stimulation (tDCS) and repetitive transcranial magnetic stimulation (rTMS) are neuromodulatory techniques capable of modifying the altered cerebral hyperexcitability in amnestic mild cognitive impairment (aMCI). Cortical excitability can be estimated with motor evoked potentials (MEPs) and synaptic plasticity can be induced with a 5 Hz rTMS paradigm applied to the motor cortex (M1). An increase in MEP amplitude reflects a better capacity for plasticity in M1, and these measures can, in turn, be associated with cognitive performance. Cognitive stimulation (CS) and tDCS in aMCI can modify excitability and improve cognition.

Objectives: Study the effect of the combination of CS and tDCS (real vs. placebo) on cognitive performance and cortical excitability.

Methods: Randomized, double-blind, placebo-controlled clinical trial in aMCI. The diagnosis was established through a clinical evaluation by a psychogeriatrician and a neuropsychological assessment. To determine the effect of the interventions, evaluations were conducted at two time points: before (T0) and after administering 9 sessions of CS and 15 sessions of tDCS over three weeks (T1). The evaluations included: MEP amplitude, Montreal Cognitive Assessment (MoCA), and Screening for Cognitive Impairment in Psychiatry (SCIP-S). For data analysis, ARTool in RStudio was used to perform aligned rank transformation for non-parametric analysis of variance in factorial models with fixed and random effects, applying a factorial ANOVA for each response variable.

Results: A total of 18 participants were enrolled (real n = 8 and placebo n = 10). Comparing T0 and T1, differences were found in both groups in MEP amplitude after applying the paradigm ($F = 5.479$; $p = 0.032$) as well as in the total MoCA score ($F = 4.808$; $p = 0.043$). When comparing the groups, differences were found in the delayed verbal learning domain assessed with SCIP-S ($F = 6.038$; $p = 0.025$) and in MEP amplitude ($F = 6.165$; $p = 0.024$). No differences were found in any of the evaluations when studying the effect of the GroupxTimeinteraction.

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Conclusions: Both groups benefit from cognitive stimulation, and the use of tDCS does not appear to enhance the cognitive effect or the MEPs. It seems that cognitive stimulation alone is capable of modifying cortical excitability and improving cognitive performance.

P31: Neuropsychological and brain profiles in elderly adult cancer survivors: A population-based cross-sectional study

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Objectives: Cancer's impact on physical and mental health varies by sex. This study explores physical and neurocognitive characteristics among elderly cancer survivors and investigates sex- specific differences in cortical thickness related to a history of cancer.

Methods: This study is part of the Arakawa geriatric cohort study for people aged 65 years or older, consisting of 1,098 individuals. Participants provided a self-reported history of cancer and underwent face-to-face diagnostic interviews, Mini-Mental State Examination (MMSE), Geriatric depression scale 15 (GDS-15), Pittsburgh Sleep Quality Index (PSQI), and three- dimensional T1-weighted magnetic resonance imaging. Cortical thickness was measured using FreeSurfer software. We explored the associations between cortical thickness, cancer history, and clinical-demographic data using univariate and multivariable regression analyses. Each analysis was conducted for the entire sample and then stratified by sex.

Results: Of 1,098 participants, 189 (17.2%) reported a history of cancer. These individuals were generally older, with a higher proportion being men. Among men, those with cancer history had lower BMI, a higher prevalence of sleep disorders (PSQI ≥ 6), lower MMSE registration scores, and more MMSE comprehension impairments. Women with a cancer history showed no significant differences in sleep or cognitive functions. After adjusting for age, imaging acquisition site, education, estimated total intracranial volume, and dementia diagnosis, cortical thicknesses of cancer survivors was found to be reduced in the left posterior cingulate in men (B [95%CI)] = 0.31 [0.12–0.78]) and in the left paracentral lobule in women (B [95%CI] = 0.22 [0.02–0.54)]).

Conclusions: Cancer history in elderly adults is associated with sex-specific differences in physical, psychological, and brain structural characteristics. In men, links were observed with underweight, sleep disturbances, and specific cognitive dysfunctions alongside reduced cortical thickness in the left 2024 International Psychogeriatric Association International Congress, IPA posterior cingulate cortex. In women, no neuropsychological changes were noted, although reduction in left paracentral cortical thickness were identified. Future research should employ longitudinal Methods to deepen understanding of cancer's long-term psychophysical effects, with an emphasis on sex-based differences.

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