Behavioral and psychological symptoms of dementia (BPSD), such as agitation, psychosis and depression, develop in the majority of patients with Alzheimer's disease in the progression of the disease. The management of BPSD, especially in the hospital setting, frequently includes psychopharmacotherapy, particularly second-generation antipsychotics (SGAs). These are associated with significant side effects.

In recent years, repetitive transcranial magnetic stimulation (rTMS) and its accelerated protocols, continuous and intermittent theta burst stimulation (cTBS, iTBS), have proven effective in treating depression. There have also been published studies that showed their effectiveness in Alzheimer's disease, in both cognition and BPSD.

We will conduct a 6 week, double-blind, randomized, controlled trial in patients with Alzheimer's disease and BPSD, hospitalized at the University Psychiatric Clinic Ljubljana. The patients in the stimulated group will receive iTBS of the left dorsolateral prefrontal cortex for five days a week, for two consecutive weeks. The patients in the sham group will have the exact same procedural protocol, but will receive sham stimulation form the sham coil. We will evaluate BPSD before and after protocol using various clinical scales. We will look if the doses of the prescribe SGAs in the stimulated group differ from the placebo group and, if so, if the difference persists at the follow-up after four weeks.

P29: Prolonged Intermittent Theta-Burst Stimulation of the Left Dorsolateral Prefrontal Cortex for Older Adults with Treatment-Resistant Depression: Effectiveness and Safety

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Objective: Treatment-resistant depression (TRD) is not uncommon in older people. Brain stimulation, such as 4-6 weeks of repetitive transcranial magnetic stimulation (rTMS) or theta burst stimulation (TBS) targeting the left dorsolateral prefrontal cortex, has been evidenced as an essential intervention for adult TRD and also documented in the current international treatment guideline. In 2018, Taiwan Food and Drug Administration cleared the rTMS as a treatment option for TRD and now rTMS is still a treatment at their own expense in Taiwan. Additionally, prolonged intermittent TBS (piTBS) protocol has been proven its similar antidepressant efficacy as standard 4-6 weeks rTMS/iTBS in adult TRD, but in a shorter treatment course of 2 weeks. For older adults with depression, 4-6 weeks of treatment course may burden their caregiver due to their limited ambulation and transportation ability. However, hitherto there was no study to investigate the antidepressant efficacy of left-sided prefrontal piTBS in treating older TRD.

Methods: A chart review was performed at a single Taiwan hospital from 2018 to 2020. 17-items Hamilton Depression Rating Scale (HDRS-17) was measured before and after the piTBS intervention. Maudsley Staging Method was used for the depression treatment refractoriness.

Results: We identified 23 old adults with TRD (mean [SD] age, 66.0[5.2]; 78% female) who underwent 10-20 sessions of daily piTBS (1800 pulses/session; 10sessions, n=18, 15sessions,n=4, 20session,n=1). On continuous

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outcomes, mean(SD) HDRS-17 total scores improved from 20.5(6.62) to 11.8(7.7) after receiving piTBS intervention. The mean percent improvement of HDRS-17 was 46.0%±29.4%. Dichotomous outcomes showed response rate of 43.5% and remission rate of 34.8%. No seizures or other serious adverse events were noted, and no premature discontinuation was noted.

Conclusion: This study is the largest study demonstrating the piTBS protocol provides a comparable reduction in depression symptoms in older adults with TRD, similar to the effectiveness in adult TRD and the efficacy of standard sequential bilateral rTMS/iTBS in older TRD in the FOUR-D trial. Regarding desirable efficiency and effectiveness, piTBS may be an optimal form of rTMS in treating older adults with TRD. Further large comparative effectiveness trials with standard iTBS or high-frequency rTMS in this population are warranted.

P33: A Re-Evaluation Study and Literature Review on AD8 as a Screening Tool

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Objective: The 8-Item Informant Interview to Differentiate Aging and Dementia (AD8) was developed as a screening tool for dementia with a cutoff of 2 suggested by the initial study. However, various studies found different cutoff values, and many found a cutoff of 2 might result in a high false positive rate. Furthermore, a higher false positive rate in Taiwan was repeatedly shown when AD8 was self-administered in local government screening programs. This study aimed to test the performance of AD8, define its best cutoff value, review factors that may affect its performance, and reconsider its proper role in clinical practice.

Methods: We recruited 118 participant-informant dyads from a university teaching hospital. For each informant, the AD8 was administered first and then the Clinical Dementia Rating to minimize contamination effect. For each participant, two geriatric psychiatrists considered history, physical and mental status examination, laboratory testing, neuropsychological testing, and neuroimaging results to make the final consensus diagnosis based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. The receiver operator characteristic curve was used to assess the diagnostic performance of AD8.

Results: There were 59 subjects with normal cognition, 28 with mild neurocognitive disorder, and 31 with major neurocognitive disorder or dementia. To discriminate between dementia and non- dementia, a cutoff of 2 resulted in a sensitivity of 0.903, specificity of 0.598, and area under the curve (AUC) of 0.751. Moving the cutoff to 3 and 4 led to better specificity (0.7126, 0.8621) and greater AUC (0.776, 0.818), albeit some loss in sensitivity (0.8387, 0.7742). The best cutoff score was 4 based on the Youden index. Without considering the mild cognitive impairment group, the optimal cutoff remained at 4, with equal sensitivity and even higher specificity.

Conclusion: Our findings suggest the AD8 may perform better and have a lower false positive rate with a cutoff value higher than 2. A literature review found its performance could be affected by disease prevalence across various healthcare settings, education level, regions, respondents' personality and understanding of questions, conduct of test, flow of test administration, etc. We will discuss the details and best screening strategies at the IPA Congress.

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