control subjects (HCs). To be enrolled in this study, patients had to show at BL reduced ΔΔTSH values (i.e., < 2.5 mU/L) and a score of 18 or greater on the 17-item Hamilton Rating Scale for Depression (HAMD-17). Post-DST cortisol maximum ($COR_{max}$) serum level in excess of 120 nmol/L defined DST non-suppression (i.e., hypercortisolemia)—6 TRDs were DST non-suppressors at BL. After 10 and 20 iTBS sessions the ΔΔTSH test and the DST were repeated in all inpatients. A positive clinical response was defined by a final HAMD-17 score ≤ 8.
**Results:** Compared to HCs, ΔΔTSH values were lower in TRDs at BL ($p < 0.00001$), and remained reduced after 10 and 20 iTBS sessions ($p < 0.001$ and $p < 0.02$ respectively). Post-DST $COR_{max}$ levels were higher in TRDs than in HCs at BL ($p < 0.01$), but were comparable to those of HCs after 10 and 20 iTBS sessions. Responders (n = 5) were characterized by 1) a normalization of their ΔΔTSH values after 20 iTBS sessions (whereas after 10 iTBS sessions ΔΔTSH values were still reduced compared to HCs [$p < 0.05$]), and 2) a normality of post-DST $COR_{max}$ levels at BL—while after 10 and 20 iTBS sessions post-DST $COR_{max}$ levels were decreased compared to HCs ($p < 0.006$ and $p < 0.03$ respectively). Non-responders (n = 7) showed 1) no significant change in their ΔΔTSH values which remained lower than those of HCs at each assessment (all $p < 0.001$), 2) while increased post-DST $COR_{max}$ levels found at BL ($p < 0.0008$ vs. HCs) normalized from the 10th iTBS session.
**Conclusions:** The present pilot study suggests that successful iTBS treatment can restore the chronobiological activity of the HPT axis. Although iTBS may increase glucocorticoid receptor signaling, baseline hypercortisolemia could negatively impact subsequent response to iTBS treatment.

**Disclosure of Interest:** None Declared

## EPP0058

## Brain atrophy but not white matter lesions associate with ECT-related confusion

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**Introduction:** Patients undergoing electroconvulsive treatment (ECT) may display an acute confusional state, often characterized by transient disorientation, inattention, memory and cognitive deficits.
**Objectives:** In this retrospective medical chart naturalistic study, we sought the determine whether white mater lesions and brain atrophy associate with the emergence of confusion during ECT treatment and preliminary results are presented herein
**Methods:** Medical charts of 24 consecutive inpatients with depression admitted to a psychogeriatric ward and subjected to bilateral frontotemporal ECT were examined retrospectively for patient and clinical characteristics. Mini-Mental State Examination (MMSE) and Geriatric Depression Scale (GDS) scores at admission and hospital discharge were retrospectively collected. Available brain Magnetic Resonance Imaging (MRI) scans were graded for lesions (white matter hyperintensities, WMH), parietal, temporal and global brain atrophy
**Results:** In this pilot study of mostly elderly patients, 50% displayed signs of confusion. All patients improved substantially, as indicated by MMSE and GDS scores, irrespectively of whether they experienced transient confusion during ECT. Preliminary results indicate that WMH are unrelated to the emergence of confusion. Instead, brain atrophy, and in particular temporal lobe and mostly frontal lobe atrophy associated with confusion
**Conclusions:** In our sample of elderly inpatients with depression subjected to bilateral ECT, preliminary results of this pilot study indicate that brain atrophy, as evidenced by MRI scans, appears as a predictor of post-ECT confusion. Moreover, the Pasquier scale, and specifically the scale sub-scores regarding brain atrophy in the frontal and temporal sulci, could prove useful in helping the clinician estimate the probability of ECT-related confusion during ECT treatment

**Disclosure of Interest:** None Declared

## EPP0059

## Changing Tactics? Optimizing ECT in difficult-to-treat depression (ChaT): study protocol

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**Introduction:** Electroconvulsive therapy (ECT) is an evidence-based treatment for difficult-to-treat depression, in which an electrical stimulus is applied via right unilateral (RUL) (Fig 1) or bitemporal (BT) electrodes (Fig 2). Current guidelines recommend to start ECT with RUL placement, except for cases where rapid response is needed. BT ECT has the reputation of exerting a stronger and faster antidepressive effect, but is associated with more pronounced cognitive side effects, as compared to RUL ECT. Recent studies, however, suggest comparable outcomes. In patients responding to ECT, most of the improvement in depressive symptom severity is witnessed early in the treatment course. In case of non-response, it is common practice to switch from RUL to BT electrode placement, although scientific evidence is lacking. As an answer to this research gap, the ChaT-trial was designed: a randomized controlled trial (RCT) to address which treatment strategy (either continue RUL ECT or switch to BT ECT) speeds up recovery with the least impact on cognitive function, in case of early non-response after 4 ECT sessions.
**Objectives:**
1) To compare the antidepressant efficacy and cognitive effects of continuing RUL ECT vs switching to BT ECT.