T57. EFFECTS OF 0.5MS AND 1.5MS PULSE-WIDTHS ON CARDIOVASCULAR FUNCTION IN SCHIZOPHRENIA PATIENTS RECEIVING ELECTROCONVULSIVE THERAPY

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Background: Electroconvulsive therapy (ECT) has been shown to have a profound effect on cardiovascular functions. The initial parasympathetic response, followed by the sympathetic surge and the second parasympathetic peak characterize a typical ECT session and in patients with pre-existing cardiac disorders, this ‘roller-coaster ride’ of autonomic discharges can drastically increase morbidity and mortality; albeit such incidences are rare nowadays with the advances in medical technology. While laterality and stimulus dose (in terms of milli coulombs, mC) are known to affect cardiovascular response, the effect of pulse-width (PW) on the latter has not been explored. Compared to 1.5-milisecond (ms) stimulus pulse trains, trains with 0.5ms PW last 3 times longer for equivalent stimulus charges, other parameters remaining constant. This would translate to greater initial parasympathetic response duration, and the implications of such occurrences for cardiovascular well-being are largely unknown.

Methods: Seventy-one consenting adult patients (M=33, F=38; mean age 30.87 ± 9.59 years, mean duration of illness 89.68 ± 77.98 months) patients, with a diagnosis of Schizophrenia, were randomly assigned to receive bilateral ECT with either 0.5ms (n=35) or 1.5ms (n=36) PW stimulus; after obtaining institutional ethical-committee’s approval. Seizure threshold was determined during the first session. Rate-Pressure product (RPP: pulse*systolic blood-pressure) was calculated during the second ECT session, in which stimulus was administered at 1.5–2 times the threshold for the two groups, at 5 time points (RPP1-5, viz. pre-anaesthesia, during anaesthesia, during convulsive motor seizure, 1 and 2 minutes post seizure, respectively). They were compared between the groups using independent-sample t-test. At baseline, the patients were assessed on PANSS for psychopathology.

Results: Two groups did not differ on socio-demographic and clinical characteristics at baseline. Mean administered dose of anaesthetic agent and muscle relaxant were comparable. While the mean seizure threshold and mean charge administered at 2nd ECT were significantly lower in the 0.5 ms group, they were otherwise comparable on mean duration of seizure (motor and EEG), and the RPPs at all 5 time-points. Both Max.RPP (18102.84 ± 4477.4 mmHg/min in 0.5ms, 17935.33 ± 3598.5 mmHg/min, p=0.864) and Max.RPP-RPP2 (5010.58 ± 2893.3 mmHg/min in 0.5ms, 5811.2 ± 4270.9 mmHg/min in 1.5ms, p=0.389) were comparable between the two groups.

Discussion: The characteristic sequence of cardiac events unfolding in an ECT session comprises of a temporary asystole during the administration of the stimulus, followed by an increase in blood pressure and pulse rate during clonic phase, and another slowing of heart rate at the end of motor seizure. The stimulus train duration in 0.5ms group lasts 3 times longer than in 1.5ms group for an equivalent amount of charge, thus increasing the asystole duration and theoretically altering subsequent autonomic responses. However, the groups failed to demonstrate any significant effects of these alterations in terms of altered cardiac activity implying that such alterations might not be clinically relevant. It is well known that briefer PWs cause lesser cognitive side-effects, are more efficient in eliciting seizures, present analysis shows that the two PWs of 0.5ms and 1.5ms might have similar effects on cardiovascular function, at least in otherwise-healthy adult schizophrenia patients, for similar anaesthetic agents, even if the train with 0.5ms PW lasts for double the time as with 1.5ms PW.

T58. SARCASM COMPREHENSION AS A SOCIAL COGNITION MEASURE IN SCHIZOPHRENIA – A SYSTEMATIC LITERATURE SEARCH AND META-ANALYSIS ON THE USE OF THE TASIT

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Background: Social cognition tasks with higher ecologically validity could be helpful both as an outcome measure for training and for social cognition impairment in schizophrenia. The comprehension of sarcasm and irony is a candidate for a valid, replicable task.

Methods: Tests and paradigms as well as studies in schizophrenia are available in English, Dutch, German, Italian, Greek, Japanese and other languages. The Awareness of Social Inference Test (TASIT) (McDonald et al., J head trauma rehabil 2003,) is currently the by far most applied paradigm. Here, we present a systematic literature search and meta-analysis on application of these paradigms in patients with schizophrenia.

Results: 25 studies with data from n=2185 patients with schizophrenia and n=1474 controls used the TASIT. This exceeds the numbers for other irony comprehension paradigms. Separate meta-analyses were calculated for the “sarcasm-enriched” and “sarcasm-minimal” subtests with data from 5 different English language studies. In both subtests, patients with schizophrenia showed significant impairment. Non-English translations of the TASIT show a comparable picture. Longitudinal data are available from 4 studies. Studies in high risk populations showed mixed results, however the TASIT is included in longitudinal cohort studies such as NAPLS-2.

Discussion: We discuss differences with other task such as paradigms without prosodic or face information or the available fMRI investigations.

T59. VIRTUAL REALTY ASSESSMENT OF FUNCTIONAL CAPACITY IN EARLY SCHIZOPHRENIA: ASSOCIATIONS WITH NEUROCognition, FUNCTIONAL CAPACITY PERFORMANCE, AND DAILY FUNCTIONING

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Background: Research using virtual reality assessment of functional capacity has shown promise as a reliable and valid way to assess treatment response in patients with established schizophrenia. There has been little work on virtual reality based assessments of functional capacity for