neuronal populations, protein aggregation, insidious adult onset, and chronic progression. Modeling these diseases in animal models is useful for studying the relationship between neuronal dysfunction and abnormal behaviours and for screening therapies. Methods: We conducted a comprehensive descriptive review of the numerous animal models currently available to study these three diseases with a focus on their utilities and limitations. Results: A vast range of genetic and toxin-induced models have been generated. Our review outlines how these models differ with regards to the genetic manipulation or toxin used and the brain regions lesioned, describes the extent to which they mimic the neuropathological and behavioral deficits seen in the human conditions, and discusses the advantages and drawbacks of each model. Conclusions: We recommend the adoption of a conservative approach when extrapolating findings based on a single animal model and the validation of findings using multiple models. Investing in additional preclinical studies before embarking on more expensive human trials will improve our understanding of the neuropathology underlying neuronal demise and enhance the chances of identifying effective therapies.

P.095

Smoking behaviour change is associated with altered functional brain connectivity in older adults

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Background: Smoking is the leading cause of preventable morbidity worldwide and therefore developing effective smoking cessation strategies is a public health priority. However, what brain networks support maintenance of smoking cessation in the long term remains unexplored. Methods: We analyzed the baseline resting-state fMRI data acquired in 23 smokers (M_{age} = 61.52 ± 3.7) who were followed longitudinally in a cohort of cognitively normal older adults. Self-reported smoking status and amount were recorded at baseline and repeated after 4 years. We investigated the effect of smoking behaviour change on functional brain connectivity using seed-to-voxel approach. We examined a-priori regions of interest (ROIs) including the reward network (ventromedial prefrontal cortex (vMPFC) and ventral striatum) and the right insula. These ROIs are promising target mechanisms given prior behavioural research linking it to smoking cessation. Results: Our results revealed that reduced smoking was associated with reduced connectivity between ventral striatum and middle frontal gyrus and enhanced connectivity between right insula and middle temporal gyrus (voxel $p < 0.001$, cluster $p < 0.05$ FDR corrected). However, change in smoking did not reveal any significant effects in the vMPFC. Conclusions: Our findings suggest that successful smoking behaviour change is associated with altered reward network and insular functional connectivity in the long term.

Epilepsy and EEG

P.096

Bi-insular responsive neurostimulation artifact on scalp electroencephalogram

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Background: Responsive Neurostimulation (RNS) has proven efficacy in the treatment of medically resistant epilepsy as an intracranial system that detects, records and treats seizures automatically. No information exists pertaining to artifact characteristics of RNS findings in scalp EEG. Methods: A 30 year-old female was diagnosed, using intracranial electroencephalography (iEEG), with refractory bi-insular epilepsy, of unknown cause. Due to her large number of focal unaware non-motor seizures and frequent seizures with progression to bilateral tonic-clonic, she was implanted with bi-insular Responsive Neurostimulation (RNS). Results: Results: During scalp EEG recordings, a prominent artifact was seen corresponding to an automatized discharge suspectedly evoked by the RNS trying to minimize the frequent epileptiform activity in her case. Figure 1 and 2 depict these findings. Conclusions: The artifact seen by the RNS in scalp EEG has not been previously described in scientific literature. These findings must be identified to better characterize the role of the RNS in EEG and treatment of seizure activity visible on scalp recordings.

P.097

After-discharges and presurgical cortical stimulation in stereo-encephalography in the study of drug-resistant epilepsy

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Background: Background: Cortical stimulation (CS) as a part of presurgical investigations in patients undergoing implantation of depth electrodes (SEEG) is a growing practice in some Comprehensive Epilepsy Centers. After-discharges (AD) are useful to determine epileptogenic tissue within or outside the epileptogenic network. Classification of afterdischarges was proposed by Blume using subdural recordings(1); its utility in SEEG is unknown. Methods: Methods: Single center, retrospective study that included patients with SEEG that underwent CS in the Epilepsy Monitoring Unit. Demographic characteristics were explored and Blume's proposed AD classification was used to determine whether or not the CS changed surgical outcomes. Results: Results: From January 2015 to June 2021, a total of 177 patients were implanted with SEEG and analyzed. 95 patients had CS and 91 had AD. Morphologies found were: Rhythmic waves