

Spectral Power of Eeg Alpha Rhythm During Resting State in Children with Autistic Spectrum Disorder

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Introduction: *There are some indications on the importance of focusing on resting state EEG and its possible links to cognitive symptoms in individuals with autistic spectrum disorder (ASD). Evidence points to disrupted neural oscillations in these individuals, which can be seen in EEG power. Objectives:* Since EEG studies on younger ages of children with ASD are sparse as well as contradictory, we have included a wide age sample of children with ASD, in order to examine possible electrophysiological pathological markers of resting state brain activity. At the cognitive level, resting state is associated with fluctuations of attention from internalized to externalized states of mind. **Aims:** in the current study, we have examined whether differences exist in spectral power of resting state within the alpha band, as it is more directly linked to attentional processes. **Methods:** We have extracted spectral power from resting state EEG within the alpha band over the frontal and sensorimotor regions, in a sample of 45 children with ASD, compared to an age and gender matched typical sample. **Results:** preliminary results point to group differences in EEG power when lower alpha band is considered, both in frontal and sensorimotor brain areas in a wide age sample, between children with ASD and the typical population. **Conclusions:** Results are discussed in light of EEG measures which could be used as diagnostic tools in clinical practice. Importance of mapping the link between attentional deficits and EEG measures in ASD is highlighted.