

P-861 - INDICATION OF ABNORMAL PERIPHERAL SENSORY PROCESSING IN ADHD AFFECTED ADULTS IN RESPONSE TO ROTATIONAL STIMULATION

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Introduction: The analysis of peripheral sensory processes can help elucidate causes and effects of developmental disorders.

Aims and objectives: This study was conducted in order to evaluate the evoked electrical activity of the inner ear in response to kinematic stimuli in individuals with Attention Deficit Hyperactivity Disorder (ADHD).

Methods: The signal developed at the ear drum during a 1.5 second acceleratory period of right contra-lateral roll rotation, at 15 degrees per second, was recorded using the EVestG method for 6 ADHD affected individuals and 30 healthy volunteers, aged 18 years or older. Signals were analysed using the Neural Event Extraction Routine, which utilises the complex Morlet wavelet to identify local field potentials. The inter field potential intervals (IFPI) were calculated as the time difference between adjacent field potentials. For each subject, mean IFPI was calculated and then the mean of means was calculated for the ADHD and control groups. Results from 1 ADHD subject and 1 control subject were excluded from further analysis due to incomplete data or sizeable movement artefact.

Results: The ADHD group exhibited significantly shorter, right ear, mean IFPI than controls (student test, $p < 0.05$). Furthermore, controls displayed a significant asymmetry (student test, $p < 0.05$) between mean IFPI for right and left ear responses, this asymmetry was absent in the ADHD group.

Conclusion: This study provides an indication of abnormal inner ear responses to kinematic stimuli in the ADHD affected population, though further studies are required to validate these results.