

## **GABAergic DYSFUNCTION, DISTURBED OTOACOUSTIC EMISSIONS PRODUCTS (DAOEPS) AND POST-TRAUMATIC STRESS DISORDER (PTSD)**

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There is indirect evidence for hypofunction of the inhibitory GABAergic system among factors that will lead to PTSD. Hearing researches highlighting that the GABA is involved in both hearing and cerebral changes following a trauma, have developed a promising audiometric method consisting in the measurement of the contractile properties of the Outer Hair Cells, so called DPOAEs, which could constitute an indirect non invasive physiological tool to evaluate central GABAergic response (2). The present study aims at assessing the response of the inhibitory GABAergic system, the OE, as their relationships for individuals with PTSD.

The research strategy used the Stroop paradigms (classic and emotional Stroop) to constitute a relevant experimentally-induced Anxiety in 16 subjects with PTSD and 16 controls. Blood GABA concentrations and DPOAEs were assessed before and after psychological stimulations.

Results showed that GABA concentrations differed between PTSD and controls at baseline and after the Stroop tasks. The Stroop tasks induced a decrease in the DPOAEs for the medium frequencies only for the PTSD group. Moreover, for PTSD, the GABA concentration at baseline was all the most low than the intensity of the PTSD was high. The increase of GABA after the Stroop tasks was all the most low than the intensity of the PTSD was high. No relationship was found between changes in GABA concentrations and in DPOAEs for subjects with PTSD.

These data showed dysfunction in the GABAergic system for individuals with PTSD and suggested that DPOAEs could be an indirect indicator for evaluating the GABAergic function.