P-786 - THE NEURAL CORRELATES OF AVERSIVE LEARNING AMONG PTSD PATIENTS

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Soldiers in combat situations need to learn to quickly identify and respond to threatening stimuli, but once safe home this learning has to be ignored. PTSD patients might be impaired in their ability to learn that cues that predicted danger in the context of war do not predict danger in a new context. A leading model for studying fear learning is Pavlovian fear conditioning, in which an emotionally neutral conditioned stimulus (CS) is paired with an aversive unconditioned stimulus (US). Following acquisition of fear response, fear extinction can be achieved by presenting the CS without the US. While fear acquisition and extinction partially model the fear modulation processes, a paradigm, which is much more interesting in the context of PTSD, is the reversal of aversive reinforcement contingencies. In this case, after acquisition of fear to one CS, the fear response is not eliminated but rather is switched to another CS. While extinction learning can only identify a diminished ability to extinguish the conditioned response in PTSD patients compared to healthy controls, reversal learning will allow us to test three distinct predictions: 1) PTSD patients may be more sensitive to fear learning compared to healthy controls; 2) PTSD patients may have difficulties in unlearning a fear response; 3) PTSD patients may generalize the fear response they developed for the first CS. We contrasted fMRI and GSR data collected during the reversal task from soldiers who developed PTSD with those of combat exposed soldiers without PTSD, as well as with healthy controls.

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