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Poster Presentation

Neuroanatomy of Post Traumatic Stress Disorder

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Abstract

Posttraumatic stress disorder (PTSD) is a disorder of emotional and mental stress occurring as an outcome of injury or severe emotional shock. Several Neuroimaging studies in humans have shown the functions and relationship between the anatomical changes of brain and PTSD. The three major areas of the brain are affected by PTSD .These three areas are the amygdala, hippocampus and prefrontal cortex, which changed with stress and PTSD. The amygdala is the stress evaluator of brain and determines when to respond and also it is involved in forming emotional memories. The amygdala sends a danger sign, begins the fight or flight response and stores stimuli in association with memory such as sounds, sights and smells when a traumatic event happen. The amygdala stays overactive for patients with PTSD. The hippocampus is vital to memory formation. When a traumatic event occurs, the hippocampus makes and stores the memory also it retrieves the memory and calms the amygdala alarm circuit. Reducing the size of hippocampus is sign of PTSD. The prefrontal cortex controls behavior, emotions, and impulses. In those with PTSD the prefrontal cortex is less active. Therefore, the prefrontal cortex is unable to override the hippocampus, as it flashes the memory, so it cannot signal to the amygdala that there is no real danger. By understanding the role of these areas and their changes over PTSD more appropriate therapies can be found for the treatment of patients

Keywords: Post traumatic stress disorder, Patients, Memory

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