Emotional reactivity in traumatic brain injury: attentional and physiological correlates

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Emotional deficits are amongst the most persistent consequences after a moderate to severe traumatic brain injury (TBI). Among these, anger issues compromise the socio-professional reintegration. However, the origin of disturbed anger experience in TBI patients is yet to be defined. Focusing on underlying mechanisms of emotion should allow to better understand the causes of anger issues. According to the Component Process Model (Scherer, 2009), subjective feeling (1) results notably from the combination of cognitive processes (2) (e.g., allocation of attention) and physiological response (3). TBI has been associated with altered physiological responses, specifically in reduced heart rate variability, which is known as an index of emotional regulation, and abnormal subjective feeling, leading to overreact to negative events. Nevertheless, attentional bias toward angry faces has never been investigated in this population, even though it may affect physiological response and therefor, subjective feeling. This project aims to disentangle the role of these deficits in the increased anger experience of TBI patients, in comparison to controls. Attention allocation (2) is assessed using a Face in the Crowd paradigm via eye tracking. Participants are asked to read scenarios resulting in unpleasant outcomes and to rate how angry they would be in that situation, depicting subjective feeling (1). Physiological reactivity (3) is recorded across baseline and reading. We hypothesized that, in TBI patients, higher levels of subjective anger will be associated with attentional bias and reduced physiological response while reading scenarios. Testing are in progress and results will be presented at the conference. Our results would allow to determine whether targeting attention or physiological reactivity could be useful for treatment of anger issues following TBI.