Neurometabolic correlates of depression and disability in episodic cluster headache.

Abstract:
A close association between pain, depression and disability has been shown. However, the neurometabolic correlates of this association have been barely investigated in disease states. Episodic cluster headache is a severe headache syndrome and represents a suitable disease model for the investigation of episodic pain. The aim of this study was to explore the relationship between depression and disability as well as pain scores and brain metabolism in patients with cluster headache during the disease period with repetitive pain attacks, but outside an acute attack. Thirteen patients with cluster headache underwent 2-[fluorine-18]-fluoro-2-deoxy-D-glucose positron emission (FDG-PET) and completed questionnaires on depression and disability as well as a pain visual analogue rating scale (VAS). A positive correlation between the depression scores and glucose metabolism was observed in the insular cortex. A positive correlation between the pain disability scores and brain metabolism was detected in the amygdala. The same applied to the pain visual analogue rating scores. Our data underline the association between severe episodic pain, depression and disability. In addition to this clinical observation, our results stress the importance of the insula and amygdala in pain processing and suffering.