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Titel des Beitrags:
A case-control study on cortical thickness in episodic cluster headache.

Abstract:
This study aims at investigating cortical thickness in cluster headache patients as compared with a healthy control group. The pathobiology of cluster headache is not yet fully understood, although a dysfunction of the hypothalamus has been suggested to be causal. Previous studies in migraine and trigeminal neuropathic pain have demonstrated changes in cortical thickness using cortex segmentation techniques, but no data have been published on cluster headache. We investigated 12 men with episodic cluster headache during a phase without acute headache as well as age and sex-matched healthy controls using high resolution T1-weighted magnetic resonance imaging acquired at 3T and performed a categorical whole-brain surface-based comparison of cortical thickness between groups. Furthermore, a correlation analysis of disease duration and cortical thickness was conducted. In comparison with control subjects, we found a reduction of cortical thickness in the angular gyrus and the precentral gyrus in cluster headache patients contralaterally to the headache side. These reductions did not correlate with disease duration. The cortical thickness of an area within the primary sensory cortex correlated with disease duration. This study demonstrates alterations in cortical thickness in cluster headache patients suggesting a potential role of cortical structures in cluster headache pathogenesis.
However, it cannot be determined from this study whether the changes are cause or consequence of the disorder. The correlation of cortical thickness with disease duration in the somatosensory cortex may suggest disease-related plasticity in the somatosensory system.