

Acute effects of cortisol on alcohol craving in alcohol dependence

Summary

Alcohol dependence is a chronically and relapsing disorder with major impact on the persons psychological, physiological and social functioning. There is extensive evidence from animal and human studies showing an association between stress and alcohol dependence. However, abnormalities in the stress reactivity and hypothalamic-pituitary-adrenal axis may play a crucial role in the pathogenesis and maintenance of alcohol dependence as well as the development of addiction memory.

It is well established that stress hormones (glucocorticoids) modulate memory processes in animals and humans. While glucocorticoids inhibit the retrieval of memories they enhance the consolidation of new information. Recent clinical studies could show that the administration of glucocorticoids reduced symptoms of anxiety and stress reactivity in patients with posttraumatic stress disorder and in phobic patients. Furthermore, the combination of glucocorticoid administration with exposure-based psychotherapy enhanced psychotherapy outcome in patients with anxiety disorders.

Comparable to anxiety disorders, the exposure to alcoholic stimuli almost invariably provokes the retrieval of alcohol-related memories in patients with alcohol dependence. Therefore we hypothesize that the administration of glucocorticoids before the exposure to alcohol-related stimuli will impair the retrieval of alcohol-associated memories which should lead to a decrease of alcohol-craving and stress reactivity in abstinent alcohol dependent patients. Furthermore, glucocorticoids enhance the long-term consolidation of corrective experiences, which may further promote the extinction of the alcohol-related memory trace. The investigation of the effects of glucocorticoid administration on addiction memory will establish a significant contribution to the neurophysiological understanding of addictive disorders. The aim is to gain knowledge about the most efficient modulatory pharmacological and psychotherapeutical variables in order to improve the outcome for the patient, as well as reduce future demand on health care resources.