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675. The Endocannabinoid Anandamide in CSF is Related to the Patterns of Cannabis use in First-Episode Schizophrenia

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Background: Cannabis use has been considered a risk factor for relapse and an influencing factor on the pattern of psychotic symptoms in schizophrenic patients. The underlying neurobiological mechanisms for these long standing clinical observations remain conjectural. This study investigates the influence of previous and present cannabis use on the recently suggested adaptive role of the endocannabinoid system in first-episode, antipsychotic-naïve schizophrenic or schizophreniform psychosis.

Methods: Concentrations of the centrally acting endocannabinoid anandamide were measured in cerebrospinal fluid (CSF) and serum of acute psychotic patients (n = 47) and of healthy volunteers (n = 81) by HPLC/MS. Psychopathology in patients, patterns of cannabis use, and urine drug screenings in both groups were assessed independently.

Results: Acute paranoid psychotic patients with less than 5 times of cannabis use lifetime and no acute use (n = 25) show significantly higher levels of anandamide in CSF than comparable healthy volunteers (n = 55; P = .000). They also differ significantly from those patients with a history of more than 20 times but no recent use of cannabis (n = 9; P = .001). Levels of anandamide in CSF were reversely correlated to psychotic symptoms depending on the history of cannabis use.

Conclusions: The pattern and history of cannabis use in acute, first-episode, antipsychotic-naïve schizophrenia yields a selective and significant association to anandamide in CSF. This is of particular importance as anandamide is suggested to play an adaptive role in acute paranoid psychosis and may enhance our understanding of the underlying neurobiology.