
Abstract

Objective

Patients with borderline personality disorder are characterized by emotional hyperarousal with increased stress levels, anger proneness, and hostile, impulsive behaviors. They tend to ascribe anger to ambiguous facial expressions and exhibit enhanced and prolonged reactions in response to threatening social cues, associated with enhanced and prolonged amygdala responses. Because the intranasal administration of the neuropeptide oxytocin has been shown to improve facial recognition and to shift attention away from negative social information, the authors investigated whether borderline patients would benefit from oxytocin administration.

Method

In a randomized placebo-controlled double-blind group design, 40 nonmedicated, adult female patients with a current DSM-IV diagnosis of borderline personality disorder (two patients were excluded based on hormonal analyses) and 41 healthy women, matched on age, education, and IQ, took part in an emotion classification task 45 minutes after intranasal administration of 26 IU of oxytocin or placebo. Dependent variables were latencies and number or initial reflexive eye movements measured by eye tracking, manual response latencies, and blood-oxygen-level-dependent responses of the amygdala to angry and fearful compared with happy facial expressions.

Results

Borderline patients exhibited more and faster initial fixation changes to the eyes of angry faces combined with increased amygdala activation in response to angry faces compared with the control group. These abnormal behavioral and neural patterns were normalized after oxytocin administration.

Conclusions

Borderline patients exhibit a hypersensitivity to social threat in early, reflexive stages of information processing. Oxytocin may decrease social threat hypersensitivity and thus reduce anger and aggressive behavior in borderline personality disorder or other psychiatric disorders with enhanced threat-driven reactive aggression.