Effects of Intranasal Oxytocin on Facial Mimicry

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There has been a recent surge in the study of the effects of oxytocin (OT) in the brain in relation to social cognition. Among other things, intranasal administration of OT was shown to improve the recognition of emotional facial expressions, and to increase gazing to the eye regions. Of clinical relevance, individuals with autism spectrum disorder (ASD) avoid eye contact, have impaired emotion recognition, and are generally impaired in aspects of social cognition. Similarly, spontaneous facial mimicry (FM), i.e. the automatic imitation of perceived facial expressions, is also thought to underlie facial emotion recognition in healthy individuals, and to be deficient in people with ASD. To test the hypothesis that relatively increased levels of brain OT lead to greater FM, 60 healthy male participants were given in a double-blind between-subjects design 24 international units (IUs) of nasal spray containing either OT or placebo (PLA). FM and emotion judgments were recorded in response to movie clips depicting changing facial expressions. As expected, FM of angry faces was significantly increased in the OT group. No effects were found for FM of happy face stimuli. The results provide further evidence of the importance of OT for social cognition skills, and suggest that FM could mediate the effects of OT on improved emotion recognition.