

PRESS RELEASE

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“CUDDLE CHEMICAL” COULD HELP AUTISM

The hormone, oxytocin, often referred to as the ‘cuddle chemical’ could reduce some of the social problems seen in autism. New York psychiatrist, Dr Eric Hollander, has found that oxytocin given to autistic adults improves their ability to recognise emotion.

Oxytocin is produced in the brain and helps to regulate social behaviour, maternal bonding and sexual response. Dr Hollander from Montefiore Medical Center University Hospital of Albert Einstein College of Medicine, New York, has carried out research in adult autism subjects which directly builds on studies which manipulate the oxytocin system in animals and healthy adults.

The inability to interact socially is a central feature of autism. Oxytocin has been found to play an important role in positive social behaviour in healthy humans. Speaking at the British Association for Psychopharmacology in Oxford today (27 July), Dr Hollander said, “We wondered if rescuing the oxytocin system was a key to improving core symptoms of autism.”

In a series of studies, fifteen adults with autism were given both intravenous oxytocin and placebo infusions in a blinded randomized fashion two weeks apart. The result was that their recognition of the emotional tone in spoken neutral sentences was enhanced over time. “We found that the recognition of emotions improved in those who had received the oxytocin. For example, subjects could better name a happy, sad, angry or indifferent tone for a recorded neutral sentence such as “the boy went to the store”. The effect persisted for two weeks showing that new social memories were formed,” he said.

Autism is a developmental disorder that produces a spectrum of symptoms, ranging from social deficits, communication difficulties to repetitive behaviour, as well as unstable moods, hyperactivity and lack of attention. “Irrespective of the type of

autism, manipulating oxytocin makes a difference,” said Dr Hollander. “Our volunteers were better able to interpret facial expressions, for example, when they received oxytocin.”

Repetitive behaviour was reduced as well. Some people with autism repeat their words or flap their hands as a way of self-stimulation, or in severe cases, develop compulsive rituals.

The people who took part in the intravenous oxytocin tests then had their brains scanned to identify changes that might have taken place. Dr Hollander found that the subgenual cingulate - a part of the brain that is also associated with resistant depression - was normalised by the oxytocin.

Giving oxytocin intravenously may be beneficial but is not very practical as a long term treatment, so Dr Hollander is also experimenting with oxytocin administered in a nasal spray compared with a placebo. The effects seem to be similar to intravenous administration.

“The benefits of oxytocin given intravenously or intranasally are intriguing in our preliminary research,” said Dr Hollander. “But we need to replicate our findings and do further studies in more people, including young people. We also need to understand better the brain systems involved in the manipulation of oxytocin.”