Oxytocin has social, emotional and behavioral benefits in young kids with autism

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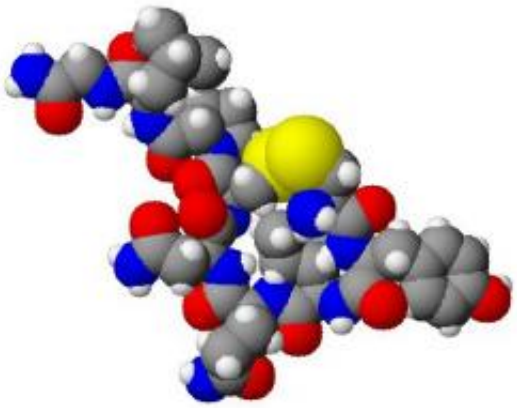

Spacefilling model of oxytocin. Created using ACD/ChemSketch 8.0, ACD/3D Viewer and The GIMP. Credit: Wikipedia.

A five week treatment with the synthetic hormone oxytocin significantly improved social, emotional and behavioral issues among young children with autism, according to University of Sydney research published today in *Molecular Psychiatry*.

The study, led by researchers at the University's Brain and Mind Centre, is thought to be the first evidence of a medical treatment for social impairments in children with autism. It is also the first clinical trial investigating the efficacy, tolerability and safety of intranasal-administered oxytocin in young children with autism.

Autism is a group of complex brain developmental disorders characterized by impairments in social interaction, communication, and stereotypical and repetitive behaviours. The diagnosed incidence is estimated to be one in 68 children and effective interventions remain limited.

Behavioural therapies can improve social, emotional and behavioural impairments but these are typically time consuming (40 hours per week), remain costly and show mixed outcomes. There is currently no medical treatment for these problems.

In this new study, 31 children aged three to eight years of age received a twice daily course of oxytocin in the form of a nasal spray.

"We used some of the most widely used assessments of social responsiveness for children with autism," said autism expert, Associate Professor Adam Guastella of the Brain and Mind Centre.

"We found that following oxytocin treatment, parents reported their child to be more socially responsive at home, and our own blind independent clinician ratings also supported improved social responsiveness in the therapy rooms of the Brain and Mind Centre," he said.

Overall, the nasal spray was well tolerated and the most common adverse events were thirst, urination and constipation.

This is the first time a medical treatment has shown this type of benefit for children with autism and findings reinforce outcomes from a longer sustained program of research by this team.

Over the last 10 years Brain and Mind Centre researchers have been documenting the benefits of oxytocin in humans, revealing that it

enhances eye gaze, emotion recognition and memory across a range of populations.

Study co-author and co-director of the Brain and Mind Centre, Professor Ian Hickie noted the new results were a critical first advance in the development of medical treatments for the social deficits that characterize autism.

"The potential to use such simple treatments to enhance the longer-term benefits of other behavioural, educational and technology-based therapies is very exciting," he said.

Most recently the team has linked observed changes from treatment to brain changes associated with social circuitry. The next step in the research is to understand exactly how oxytocin changes brain circuitry to improve social behavior, and to document how related treatments might be used to boost established social learning interventions.

The researchers are seeking to further develop the potential of oxytocin-based interventions within the context of good multi-disciplinary care for autism.

Provided by University of Sydney