Docket #: S18-301

Intranasal vasopressin to treat social impairments associated with autism

Researchers at Stanford are developing methods of using arginine vasopressin (AVP) to improve social abilities of children with autism spectrum disorder (ASD). Autism is a neurodevelopmental disorder characterized by social impairments (e.g. diminished eye gaze, abnormal face and emotional processing and impaired social judgement) and the presence of restricted/repetitive behaviors. Several medications are available to treat associated behaviors in autism, but they have negative side effects and are ineffective at improving social abilities. Research has shown that AVP plays a critical role in promoting mammalian social behavior. As such, the inventors investigated the use of AVP as a potential treatment for autism. They conducted a small pilot clinical trial of intranasal AVP in children with autism. The results of this trial were promising and suggest AVP may be useful for treating social impairments associated with autism.

Stage of research
The inventors conducted a pilot double-blind, randomized, placebo-controlled clinical trial to test the efficacy and tolerability of 4-week intranasal administration of AVP to children aged 6-12 with ASD. This study showed that AVP administration enhanced social communication abilities, diminished anxiety symptoms and reduced some repetitive behaviors in children with ASD. Further, AVP was well tolerated with minimal side effects in this pediatric population.

Applications

- Therapeutic for ASD- treatment for social impairments associated with ASD.

Advantages

- Solves an unmet need- provides a new therapeutic to treat the social impairments associated with ASD.
- Potential to improve social behaviors, reduce anxiety symptoms and reduce repetitive behaviors
- Safe, well tolerated
- Minimal side effects

Publications

- Parker KJ, Oztan O, Libove RA, Mohsin N, Karhson DS, Sumiyoshi RD, Summers JE, Hinman KE, Motonaga KS, Phillips JM, Carson DS, Fung LK, Garner JP, Hardan AY. A randomized placebo-controlled pilot trial shows that intranasal vasopressin improves social deficits in children with autism. Sci Transl Med. 2019 May 1.
- Digitale, E. Hormone reduces social impairment in kids with autism. Stanford News. 2019 May 1.

Patents

- Published Application: WO2020014394
- Published Application: 20210260152
- Issued: 11,951,149 (USA)

Innovators

- Karen Parker
- Antonio Hardan
- Dean Carson

Licensing Contact

Seth Rodgers

Licensing Manager, Life Sciences

Email