

Role of oxytocin and vasopressin in neuropsychiatric disorders: Therapeutic potential of agonists and antagonists

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Abstract

Oxytocin (OT) and vasopressin (AVP) are hypothalamic neuropeptides classically associated with their regulatory role in reproduction, water homeostasis, and social behaviors. Interestingly, this role has expanded in recent years and has positioned these neuropeptides as therapeutic targets for various neuropsychiatric diseases such as autism, addiction, schizophrenia, depression, and anxiety disorders. Due to the chemical-physical characteristics of these neuropeptides including short half-life, poor blood-brain barrier penetration, promiscuity for AVP and OT receptors (AVP-R, OT-R), novel ligands have been developed in recent decades. This review summarizes the role of OT and AVP in neuropsychiatric conditions, as well as the findings of different OT-R and AVP-R agonists and antagonists, used both at the preclinical and clinical level. Furthermore, we discuss their possible therapeutic potential for central nervous system (CNS) disorders. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Agonists; Antagonists; Neuropeptides; Neuropsychi-atry disorders; Oxytocin; Pharmacology; Vasopressin