

## P

**INVOLVEMENT OF NEUROHYPOPHYSEAL PEPTIDES IN DRUG-MEDIATED ADAPTIVE RESPONSES**

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The hormones of the posterior pituitary — vasopressin and oxytocin — have been implicated in brain mechanisms involved in consolidation, retrieval and repression of recently acquired information. Analogous processes seem to play a role in the response to repeated administration of psychoactive drugs. These changes include drug-seeking behavior and development of tolerance and physical dependence. Thus, the influence of neurohypophyseal hormones and their fragments on these adaptive responses has been studied.

Development of tolerance to and physical dependence on morphine and ethanol appeared to be affected by neuropeptides related to posterior pituitary hormones. In general, facilitatory effects of these peptides were found. Structure-activity studies revealed that particularly the C-terminal parts of neurohypophyseal hormones are important in this respect.

Neurohypophyseal hormones also modulate acquisition of heroin self-administration in rats. Thus, des-glycinamide<sup>9</sup>-[Arg<sup>8</sup>]-vasopressin (DG-AVP) reduced while the C-terminal tripeptide of oxytocin (Pro-Leu-Gly) increased the acquisition rate of heroin self-administration. These and other data suggest that reward mechanisms triggered by heroin and involved in drug-seeking behavior are under the control of neurohypophyseal hormones and their fragments. This hypothesis has obtained support from preliminary studies in human addicts. DG-AVP treatment appeared to facilitate the methadone detoxification of heroin addicts.

## Q

**PHARMACOLOGICAL MANIPULATION OF OPIATE-LIKE PEPTIDE SYSTEMS**

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Although much evidence has accumulated in support of neurotransmitter, neuromodulator and/or neurohormonal function of opiate-like peptides, little is known as yet concerning their physiological significance. Studies involving manipulation of levels and release of these peptides by pharmacological treatment offers one approach to the investigation of both this question and that of their possible role in addictive processes.