

عنوان مقاله:

The Role of Hypocretin/Orexin in Stress-Induced Analgesia

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خلاصه مقاله:

Orexin is produced exclusively in the lateral hypothalamus, where it is known to be involved in pain modulation through brain stem. Due to the important role of this peptide in functions such as eating, sleeping and awaking, addiction, it attracted the attention of researchers in medical sciences specially neuroscientists. These hypothalamic peptides play a critical role in arousal in stressful situations and in pain modulation. Moreover, orexin receptors (OXRs) have been found in many brain structures involved in pain processing. In the present study, the role of orexin in stress-induced analgesia is reviewed. Although, intracerebroventricular or spinal injection of orexin-A have been shown to elicit analgesic responses; however, the locations of central sites that may mediate these effects have not been clearly elucidated. On the other hand, it is unclear in which stressful situations the nociceptive information is altered. It seems that in stressful situations, orexin expression increases which increases arousal, and thus, leads to elevation of animal performance and nociceptive signals blockage, which improve performance in stressfultuations. It is well-established that the acute and chronic forms of stress can affect the orexin system and might be responsible for changes in both pain threshold and nociceptive behaviors. It is suggested that OXR₁ might be involved in antinociception behaviors induced by stress. This review highlights the significant role of OXR₁ as a novel target for treatment of stress-related disorders.

کلمات کلیدی:

Orexin (hypocretin), Pain, Stress

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