Relation of beta-casomorphin to apnea in sudden infant death syndrome.


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Sudden infant death syndrome (SIDS) is the most common cause of death in infants and its pathogenesis is complex and multifactorial. The aim of this review is to summarize recent novel findings regarding the possible association of beta-casomorphin (beta-CM) to apnea in SIDS, which has not been widely appreciated by pediatricians and scientists.

beta-CM is an exogenous bioactive peptide derived from casein, a major protein in milk and milk products, which has opioid activity. Mechanistically, circulation of this peptide into the infant’s immature central nervous system might inhibit the respiratory center in the brainstem leading to apnea and death. This paper will review the possible relationship between beta-CM and SIDS in the context of passage of beta-CM through the gastrointestinal tract and the blood-brain barrier (BBB), permeability of the BBB to peptides in infants, and characterization of the casomorphin system in the brain.

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