

Feb SIDS and Serotonin

U.S. researchers find new clue to infant deaths



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CHICAGO (Reuters) - Babies who die from sudden infant death syndrome make low amounts of the message-carrying brain chemical serotonin needed to regulate sleep, breathing and heart rate, U.S. researchers said on Tuesday.

The finding, published in the Journal of the American Medical Association, may help identify babies at risk for SIDS, which each year kills more than 2,300 babies before their first birthday.

They said abnormal levels of serotonin may hamper an infant's breathing, especially in challenging situations, such as breathing in too much exhaled carbon dioxide while sleeping face down.

"We have known for many years that placing infants to sleep on their backs is the single most effective way to reduce the risk of SIDS," Dr. Alan Guttmacher, director of the National Institute of Child Health and Human Development, which funded the study.

"The current findings provide important clues to the biological basis of SIDS and may ultimately lead to ways to identify infants most at risk as well as additional strategies for reducing the risk of SIDS for all infants," Guttmacher said in a statement.

In the study, Dr. Hannah Kinney of Harvard Medical School and Children's Hospital Boston and colleagues examined brain tissue from babies who died from SIDS and from other causes.

The tissue came from the medulla, a region at the base of the brain that regulates basic functions such as body temperature, breathing, blood pressure and heart rate.

Kinney's team found that serotonin levels were 26 percent lower in tissue from babies who died of SIDS than those who died from other causes, and they also found low levels of the enzyme tryptophan hydroxylase, which is needed to make serotonin.

VULNERABLE BABIES

The findings suggest that some babies have an underlying vulnerability to SIDS, which can become fatal when combined with an external stress such as sleeping face down, especially when it occurs within the first year of life.

"Our research suggests that sleep unmasks the brain defect," Kinney said in a statement.

"When the infant is breathing in the face-down position, he or she may not get enough oxygen. An infant with a normal brain stem would turn his or her head and wake up in response. But a baby with an intrinsic abnormality is unable to respond to the stressor."

The team hopes the study will lead to a test that measures a baby's serotonin levels, making it possible to identify children at highest risk for SIDS.

Rates of sudden infant death syndrome, also known as cot death or crib death, have plummeted in countries where health workers have counseled parents and caregivers to put infants on their backs to sleep, to avoid keeping rooms too warm and to keep loose blankets and pillows away from infants.

(Reporting by Julie Steenhuysen; Editing by Doina Chiacu)