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REM sleep deprivation plays a role in chronic migraine

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Reporting at the American Headache Society's 52nd Annual Scientific Meeting in Los Angeles this week, new research shows that sleep deprivation leads to changes in the levels of key proteins that facilitate events involved in the underlying pathology of migraine.

Paul L. Dunham, Ph.D. and his team at Missouri State University's Center for Biomedical & Life Sciences sought to understand the mechanisms by which sleep disturbance increases the risk of migraine and may even trigger migraine.

"Previous clinical data support a relationship between sleep quality and migraine," said Dr. Durham, "so we used an established model of sleep deprivation to measure levels of proteins that lower the activation threshold of peripheral and central nerves involved in pain transmission during migraine. We found that REM sleep deprivation caused increased expression of the proteins p38, PKA, and P2X3, which are known to play an important role in initiating and sustaining chronic pain."

"So little is known about the biological mechanisms that underlie how certain factors trigger a migraine attack," said David Dodick, M.D., president of the AHS. "This is important work and this Missouri State team should be applauded for beginning to shed light on an area desperately in need of investigation."

The work was supported by Merck & Co.

Provided by American Headache Society