Study finds brain chemical linked to grief

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By Michael Kahn

LONDON (Reuters) - Scientists have pinpointed a key brain chemical involved in dealing with the sudden loss or long-term separation of a partner, they said Wednesday.

The finding in a type of rodent called a prairie vole could lead to potential treatments for people suffering severe depression-like symptoms after losing a partner, Oliver Bosch of the University of Regensburg in Germany and his colleagues said.

"Here we have a change in the activity in a part of the brain linked to behaviors such as anxiety and depression," Bosch said in a telephone interview. "This could mimic what you find in humans after an unplanned separation or loss."

The team, which also included researchers from Emory University in Atlanta, studied prairie voles because, unlike 95 percent of all mammals, the furry creatures form long-lasting bonds with their mates.

Other studies have linked losing a partner to increased risk of depression and disease but Bosch and colleagues wanted to find a biological explanation for why this might be so.

In their study, they separated groups of voles from either their mates or siblings and left the remaining ones together to gauge the response of the animals.

The separated voles all showed higher anxiety levels but only ones that had lost a mate exhibited signs of depression, the researchers reported in the journal Neuropsychopharmacology.

Further tests demonstrated that a brain chemical known as "corticotropin releasing factor," a neurotransmitter involved in the stress response, was elevated in all the voles which had bonded with a partner.

Voles given a compound which blocks the chemical from signaling in the brain showed no evidence of these symptoms, suggesting that drugs could do the same in people struggling to overcome the loss of somebody close, Bosch added.

"It might be possible to potentially ease this bereavement and in the future use these blockers to treat patients that are really suffering from losing a partner," he said.

(Reporting by Michael Kahn; Editing by Will Dunham and Opheera McDoom)