Dreams, Oneirophrenia and Dementia: Can a Clouded Dream-Wake Recognition Herald Cognitive Impairment?

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Dear Editor,

The Merriam-Webster Dictionary Online defines dreams as a succession of ideas, pictures, or feelings that happen while people sleep (https://www.merriam-webster.com/dictionary/dream). The Sleep Foundation describes a dream as ideas or images that come to mind while people are asleep; a dream may occur at any sleep stage, but rapid eye movement (REM) sleep is when dreams tend to happen most often and vividly (https://www.sleepfoundation.org/dreams). According to a 2022 systematic review of 605 middle-aged individuals, having upsetting dreams was linearly and statistically linked to an increased risk of cognitive deterioration and an increased chance in older adults of developing dementia.[1] An article published by da Silva[2] in this journal highlighted that in older people and in those who have neurodegenerative illnesses, sleep disruption is common and predicts cognitive deterioration. In 1992, we introduced "oneirophrenia" to characterize dream alteration in persons with AIDS dementia complex.[3] The frequent comment we collect from persons affected by oneirophrenia and distressed by the experience is: "When I wake up, and for a while, I'm not sure whether I'm still dreaming or awake".[3] Oneirophrenia is a word used by other authors to describe a condition in which people have difficulty telling the difference between reality and a dream, as if they were in a dreamlike state of awareness.[4,5] We have also found oneirophrenia linked to early Alzheimer dementia, mild cognitive impairments, organic brain injuries, and during the resolution of delirium.[6] However, oneirophrenia has also been mentioned in people with catatonia and delirious mania.[7]

We speculate that the ability of humans to differentiate a dream from the awake state may get disrupted during early and late dementia; we hypothesize a "laziness" of neuronal activation of the pontine centers by a portion of higher cortical structures during the waking or last stage of sleep, hence causing oneirophrenia. We also theorize that due to progressive loss of neurotransmitters, neurones, and neural connections, a person with organic brain diseases and dementia may not only present apparent abnormalities in their alert state but also have an understimulated prefrontal cortex and corticolimbic system; as a result, some dreamlike activity may continue beyond its physiological limitations, such as when a person is awake. The similarity of oneirophrenia with fever dreams might also suggest its link with neuroinflammation and interleukin production.

The differential diagnosis is linked to other sleep disturbances and parasomnias, such as "confusional arousals," in which a person sleeping displays disorientation upon waking up.[8] Another differential diagnosis is REM-sleep behavioral disorder, characterized by abnormal behaviors occurring during REM sleep, often as dream enactments, which can cause injury and might be linked to Lewy-body dementia.[9] An additional differential diagnosis is confabulations (which refer to false or erroneous memories that may occur in persons with or without apparent neurological injury) in lucid dreamers implicating reality-monitoring dysfunction in dream consciousness; spontaneous confabulation involves a failure of reality monitoring resulting from malfunctioning of a very rapidly acting (200 ms to 300 ms) filter located in the orbitofrontal cortex that brings forward reminiscences of prior experiences on the current prevailing background.[10]

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