

Researchers link post-right stroke delirium and spatial neglect to common brain mechanism

November 21 2017

Stroke researchers at Kessler Foundation have proposed a theory for the high incidence of delirium and spatial neglect after right-brain stroke. Their findings are detailed in "Disruption of the ascending arousal system and cortical attention network in post-stroke delirium and spatial neglect," which was published online ahead of print on September 27, 2017 by *Neuroscience & Biobehavioral Reviews*. The authors are Olga Boukrina, PhD, research scientist, and A.M. Barrett, MD, director of Stroke Rehabilitation Research at Kessler Foundation.

Delirium and spatial neglect affect approximately half of individuals with right brain stroke, increasing their risk for prolonged stays and rehospitalization. Identifying the factors associated with these often disabling conditions is the initial step toward minimizing their impact on recovery and rehabilitation. Stroke survivors with spatial neglect are more likely to develop [delirium](#), an acute disorder of attention and cognition, suggesting that these conditions may share a common brain mechanism.

"The brain networks for [spatial attention](#) and arousal may underlie the impairments in delirium and spatial neglect," noted Dr. Boukrina. "These networks comprise ascending projections from the midbrain nuclei and integrate dorsal and ventral cortical and limbic components. We propose that right-brain stroke disproportionately impairs these cortical and limbic components, causing the lateralized deficits that characterize

spatial neglect," she explained. "Spatial neglect may lower the threshold for delirium, which could account for the higher incidence of both post-stroke complications."

Further research is needed in order to identify individuals at risk soon after [stroke](#), and develop an effective protocol for reducing the risk of these complications and their contributions to mortality and morbidity.

More information: Olga Boukrina et al, Disruption of the ascending arousal system and cortical attention networks in post-stroke delirium and spatial neglect, *Neuroscience & Biobehavioral Reviews* (2017). [DOI: 10.1016/j.neubiorev.2017.09.024](#)

Provided by Kessler Foundation

Citation: Researchers link post-right stroke delirium and spatial neglect to common brain mechanism (2017, November 21) retrieved 19 April 2024 from <https://medicalxpress.com/news/2017-11-link-post-right-delirium-spatial-neglect.html>

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