Tug McGraw Foundation-Supported Study Provides Hope for Improving Cogn

Tug McGraw Foundation

The foundation partnered with CereScan® Corp. on the study, which was published in the February 2019 issue of The Journal of Photobiomodulation, Photomedicine, and Laser Surgery.

YOUNTVILLE, CALIFORNIA. March 18, 2019 – A recently published Tug McGraw Foundation-funded study found that the use of red and near-infrared light therapy improved cerebral blood flow and cognitive functions in veterans with chronic traumatic brain injury (TBI). The landmark study is among the first to demonstrate objective evidence for the reversal of regional cerebral blood flow (rCBF) deficits in chronic TBI patients. Independent researchers, in collaboration with brain imaging and analytics company

CereScan® Corp., used quantitative functional brain imaging and neuropsychological assessments to analyze the therapy's effectiveness.

The Centers for Disease Control and Prevention estimated about 2.8 million TBI cases were reported in emergency departments in 2013, versus 1.5 million in 2001. Among returning soldiers, TBIs have been recognized as the signature wound of the conflicts in Iraq and Afghanistan. While current standard treatment for TBI is focused on pharmacotherapy and cognitive rehabilitation therapy, evidence of these interventions' effectiveness is minimal, according to the Institute of Medicine. This study – supported by objective data – points to a new way to potentially improve chronic TBI symptoms using photobiomodulation therapy (PBMT) with light-emitting diodes (LEDs).

"The Tug McGraw Foundation is proud to have supported this study that shines a light on a non-invasive treatment option for brain injury survivors," said Tim McGraw, Honorary Chairman of Yountville, California-based Tug McGraw Foundation. "We hope these results will help our military veterans suffering from brain injuries find hope and relief from their chronic symptoms." added Jennifer Brusstar, Chief Executive Officer, Tug McGraw Foundation.

FIG. 1. Sequentially pulsed red/near-infrared device.

FIG. 1. Sequentially pulsed red/near-infrared device.

The study, “Pulsed Transcranial Red/NIR Light Therapy Using Light-Emitting Diodes Improves Cerebral Blood Flow and Cognitive Function in Veterans with Chronic Traumatic Brain Injury: A Case Series,” recruited 12 symptomatic military veterans diagnosed with chronic TBI. The study participants received transcranial red and near infrared light therapy three times a week over a period of six weeks. Quantitative single photon emission computed tomography (SPECT) imaging and neuropsychological assessments were performed before and within three weeks after completing treatment. The outcome measures showed red and near infrared light therapy significantly improved cognitive function and rCBF in the military veteran participants. Six of 15 neuropsychological tests showed significant improvements in memory, concentration, and cognitive processing speed and all, but one test, showed positive outcomes. While data obtained from SPECT imaging showed brain perfusion improvements in 8 of the 12 participants.

“The results from this study add even more validity to the rapidly growing body of scientific

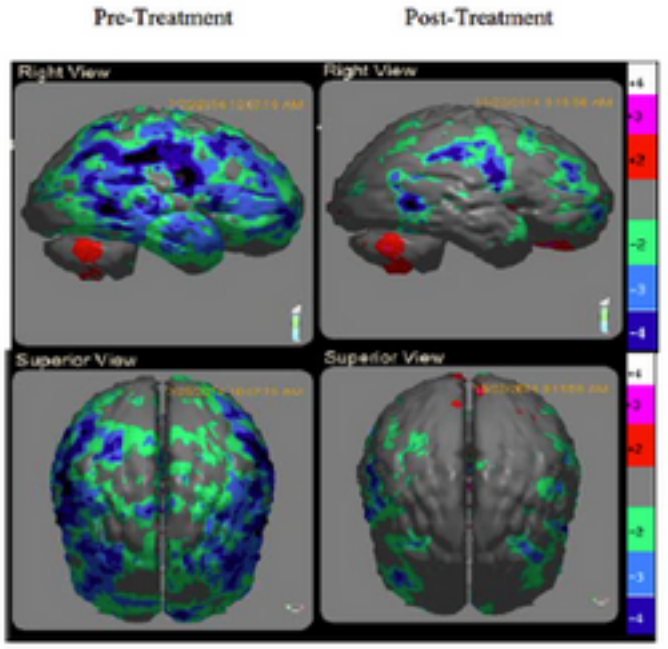


FIG. 2. Changes in regional cerebral blood flow following 6 weeks of treatment (P3). Sagittal and superior views.

Pre-Treatment
Post-Treatment
Right View
Right View
Superior View
Superior View

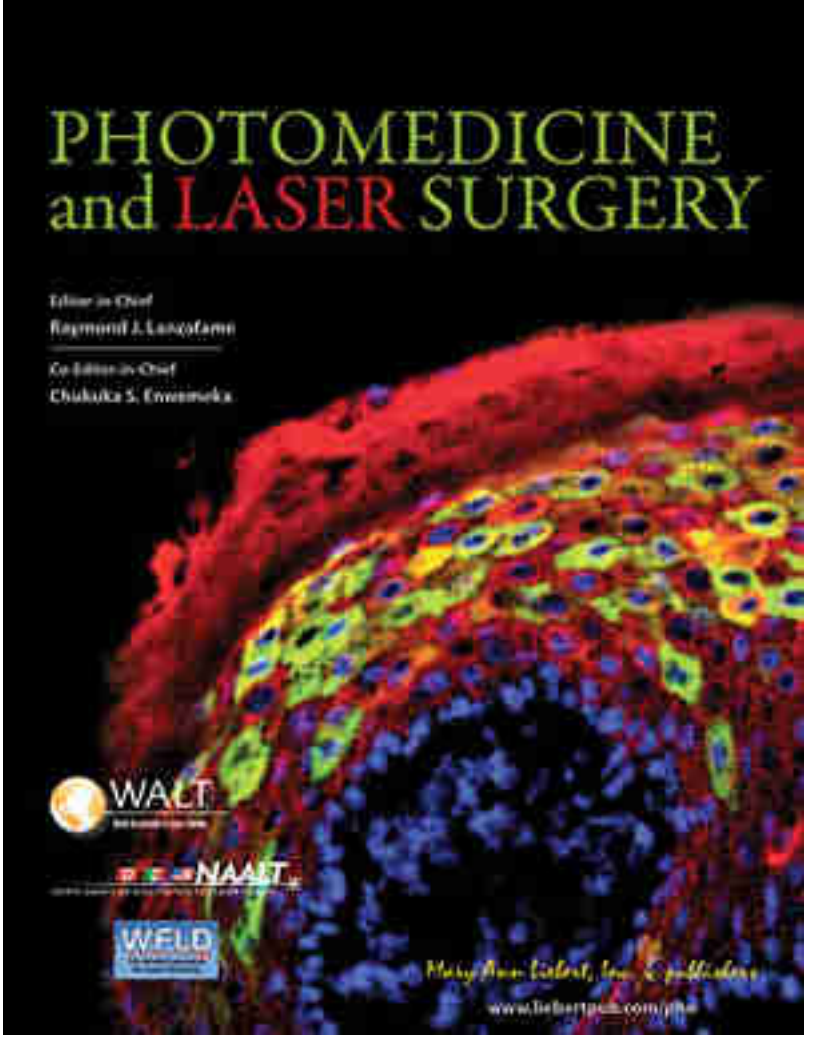
FIG. 2. Changes in regional cerebral blood flow following 6 weeks of treatment (P3). Sagittal and superior views.

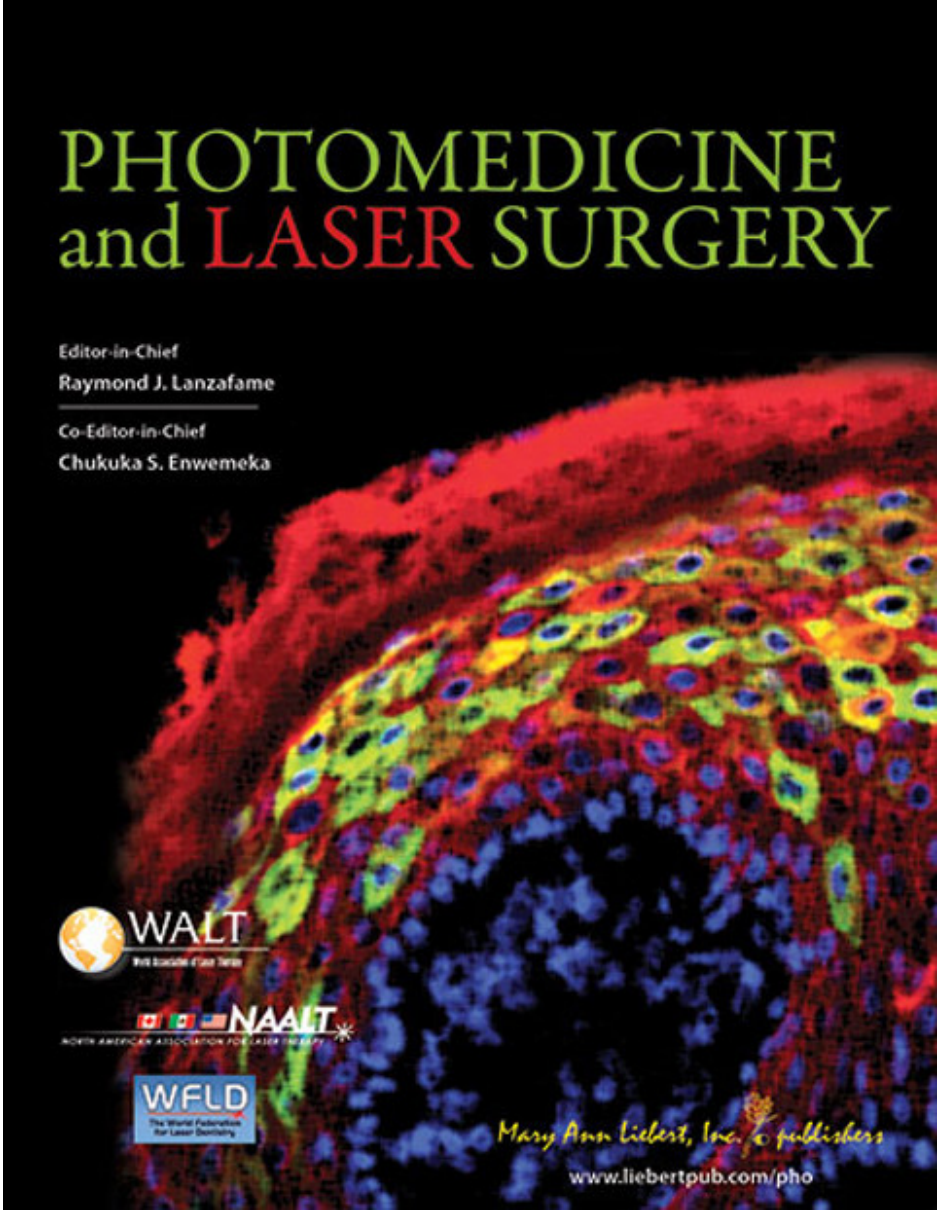
literature supporting the concept of the brain's

neuroplasticity and the power of specific light wavelengths to trigger the natural healing process of photobiomodulation in the human body," said lead author and president of Belleville, Illinois-based Brain Injury Consulting, LLC S. Gregory Hipskind, M.D., PhD.

John Kelley, CEO and Chairman of Denver-based CereScan® Corp. stated, "The lack of timely, comprehensive information available to researchers analyzing central nervous system (CNS) therapies is appalling. This study is a prime example of how pre- and post-imaging data and analytics play a crucial role in evaluating and bringing new – potential lifesaving— CNS treatments to the people who need it faster."

The study – published in February 2019 issue of The Journal of Photobiomodulation, Photomedicine, and Laser Surgery – was funded by the , a nonprofit organization dedicated to improving the quality of life for veterans and those affected by neurological brain conditions. It was carried out by CereScan® Corp., lead principal investigator, Dr. Hipskind, and co-principal investigators: Fred Grover Jr. M.D.; T. Richard Fort, PhD; Dennis Helffenstein, PhD., CRC; Thomas J. Burke, PhD.; Shane A. Quint; Garrett Bussiere; Michael Stone, M.D.; and Timothy Hurtado, D.O.


PHOTOMEDICINE
and LASER SURGERY
Editor-in-Chief
Raymond J. Lanzafame
Co-Editor-in-Chief
Chukuka S. Enwemeka
WALT
NAALT
WELD
Mary Ann Liebert, Inc. Publishers
www.liebertpub.com/plm



The study entitled “Pulsed Transcranial Red/Near-Infrared Light Therapy Using Light-Emitting Diodes Improves Cerebral Blood Flow and Cognitive Function in Veterans with Chronic Traumatic Brain Injury: A Case Series” can be downloaded or found here: https://www.liebertpub.com/doi/10.1089/photob.2018.4489

About Photobiomodulation Photobiomodulation is the ability of light therapy of specific wavelengths applied using lasers or LEDs to improve tissue repair and reduce pain and

inflammation. When it is directly applied, the light (commonly in the red/near infrared wavelengths) is absorbed by our cells and triggers a release of nitric oxide (NO) from the mitochondria, which creates more ATP (energy) in our cells and signals the body to increase blood flow and trigger the production of the body's natural healing substances. About Tug McGraw Foundation The Tug McGraw Foundation provides support and resources for people affected by brain tumors and brain-related trauma, including Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI). The Foundation strives to connect patients and caregivers by promoting awareness, fostering understanding and funding research that can improve the quality of support for people affected with brain ailments. For more information, visit www.tugmcgraw.org.

About CereScan® Corp. CereScan® is a subsidiary of CereHealth™ Corp., a brain imaging and data analytics company with a proprietary, scalable AI platform. CereHealth™ is focused on becoming the world leader in the development of quantitative biomarkers for central nervous system (CNS) disorders to reduce misdiagnosis rates, increase treatment efficacies and help bring new therapies to the market faster. For more information, visit CereScan.com.

Media Contact: Elizabeth Grillos

elizabeth@emgrillosconsulting.com

#InvisibleWound #SpectImaging #TBI #Cerescan #BlastExposure #TraumaticBrainInjury #nearinfraredlighttherapy #TugMcGrawFoundation #Photobiomodulation #Brain #TimMcGraw #Cognitive