Research suggests viability of brain computer to improve function in paralyzed patient

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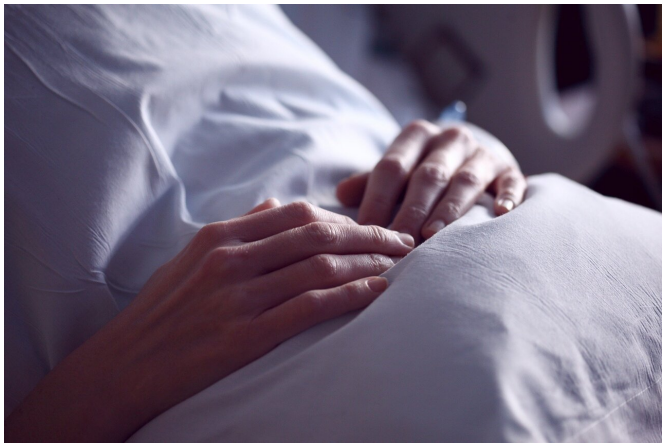

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Researchers demonstrated the success of a fully implantable wireless medical device called a stentrode brain-computer interface designed to improve functional independence in patients with severe paralysis. The abstract was presented today at the Society of NeuroInterventional Surgery's (SNIS) 17th Annual Meeting.

The study, Motor Neuroprosthesis Implanted using Cerebral Venography Improves Activities of Daily Living in Severe Paralysis, is the first-in-human examination of the stentrode, an implantable brain-computer interface, conducted at The Royal Melbourne Hospital. The first patient to receive the device was a 75-year-old man with severe paralysis due to amyotrophic lateral sclerosis (ALS), who was totally dependent on his wife for care.

"The implantation procedure combined functional MRI coregistration with angiography to precisely place the stentrode over the motor cortex," said Professor Peter Mitchell, principal investigator and leader of the operative team.

Following implantation of the device, the patient increased independence and could perform essential activities, such as text messaging, online shopping and managing his finances.

"The results in this first human trial show promise that this device may restore voluntary motor function of personal computers and devices for patients with severe paralysis due to brain, spinal cord, peripheral nerve or muscle dysfunction," said Dr. Thomas Oxley, lead author of the study and Associate Professor in the Vascular Bionics Laboratory at the University of Melbourne. "We need to conduct additional research to confirm our preliminary results and prove the validity of this ground-breaking technology."

The stentrode brain-computer interface translates brain activity associated with attempted movements and digitally converts thoughts into command functions of external devices. The data shows successful control of devices that improve instrumental activities of daily living, which can include texting, emailing, online shopping and banking.

Provided by Society of NeuroInterventional Surgery

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