Medical Xpress

Don't let botox go to your head…or should you?

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Dr. William Huynh.

Injecting botox into the arm muscles of stroke survivors, with severe spasticity, changes electrical activity in the brain and may assist with longer-term recovery, according to new research.

Researchers at NeuRA (Neuroscience Research Australia) monitored nerve activity in the arms and brains of stroke survivors before and after botulinum toxin (botox) injections in rigid and stiff muscles in the arm.

They found that botox indeed improved arm muscles, but also altered brain activity in the cortex – the brain region responsible for movement,

memory, learning and thinking.

"Botulinum toxin is used to treat a range of muscular and neurological conditions and our data shows that this treatment results in electrical and functional changes within the brain itself", says Dr William Huynh, lead author of the study and a research neurologist at NeuRA.

"This effect of botox on the brain may arise because the toxin travels to the central nervous system directly, or because muscles treated with botox are sending different signals back to the brain".

"Either way, we found that botox treatment in affected muscles not only improves muscle disorders in stroke patients, but also normalises electrical activity in the brain, particularly in the half of the brain not damaged by stroke".

"Restoring normal activity in the unaffected side of the brain is particularly important because we suspect that abnormal information sent from affected muscles to the brain may be disrupting patients' long-term recovery", Dr Huynh concluded.

This paper is published in the journal *Muscle and Nerve*.

More information: onlinelibrary.wiley.com/doi/10 … 2/mus.23719/abstract

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