Level of inflammation could help predict effectiveness of electroconvulsive therapy for major depression

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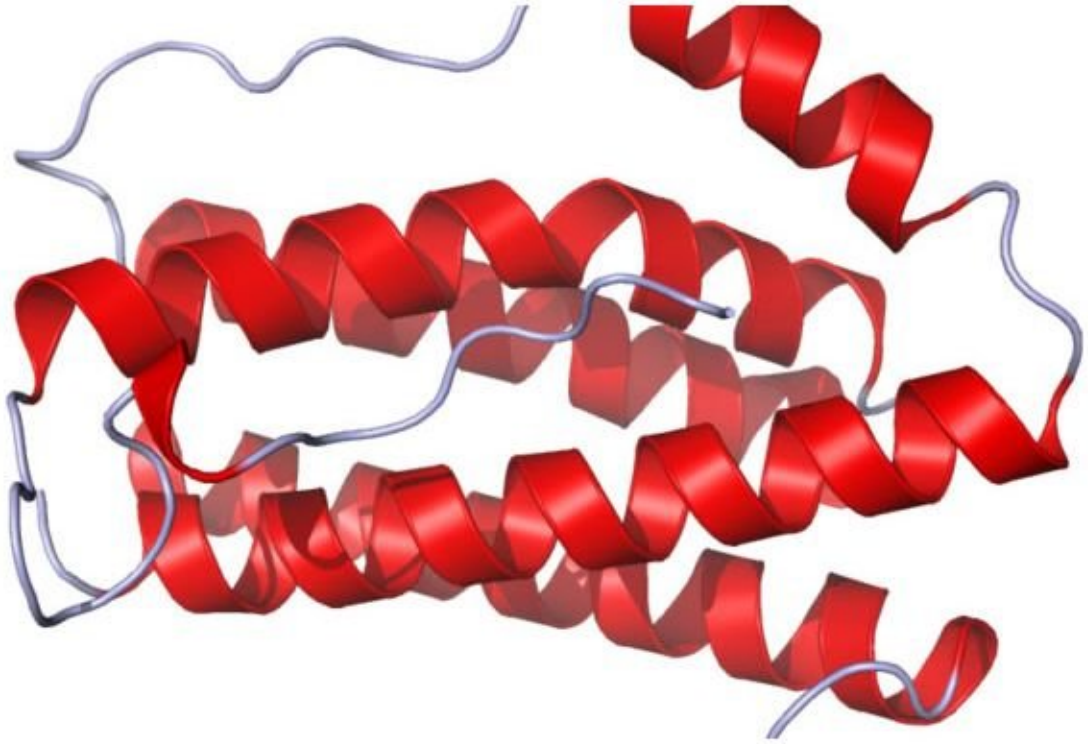

Interleukin 6 is one of the inflammatory molecules in the blood associated with depression. Credit: Ramin Herati

People with major depression that has not been well controlled by

medications and who have a biomarker in their blood indicating a higher level of inflammation may benefit more than people with less inflammation from electroconvulsive therapy to ease symptoms of their depression, according to a new UCLA study.

Inflammatory molecules in the blood, such as C-reactive protein and interleukin 6, are associated with depression, and higher levels of inflammation predict that people won't respond as well to antidepressant medications as other people do.

Scientists wanted to see if levels of inflammatory molecules could predict how well people with treatment-resistant depression would respond to electroconvulsive therapy. ECT, which involves a brief electrical stimulation of the brain while the patient is under anesthesia, is a highly effective treatment for major depression for some patients. But nearly one-third of the people who undergo ECT fail to respond.

Researchers evaluated levels of inflammatory markers in the blood, and the severity of depression symptoms, in 29 people with major depressive disorder who already were scheduled to undergo ECT. Depression symptoms were scored using a standard rating scale. Researchers measured the biomarkers before the treatment, after the second ECT session and after the final session. The researchers focused on biomarkers that are consistently elevated in some people with major depression: interleukin 6, interleukin 8, C-reactive protein and tumor necrosis factor-alpha.

Researchers found that higher levels of interleukin 6 before the person's first ECT session correlated with improved depression scores after ECT. If the findings are replicated in a larger study, measuring levels of interleukin 6 could help doctors decide which patients with depression would be best suited for treatment with ECT.

More information: Jennifer L. Kruse et al. Inflammation and Improvement of Depression Following Electroconvulsive Therapy in Treatment-Resistant Depression, *The Journal of Clinical Psychiatry* (2018). DOI: 10.4088/JCP.17m11597