Depressed TSH level as a predictor of poststroke fatigue in patients with acute ischemic stroke

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Cite as: Neurology® 2018;91:e1971-e1978. doi:10.1212/WNL.0000000000006534

Study objective
To determine whether thyroid function profiles can predict poststroke fatigue (PSF) in patients with acute ischemic stroke (AIS).

Summary results
Thyroid function profiles may predict PSF after AIS.

What is known and what this paper adds
PSF is a common symptom in stroke patients, but its etiology is not fully understood. This study provides evidence for a relationship between thyroid dysfunction and PSF.

Participants and setting
This study followed 704 patients with AIS (65.1% male; mean age, 60.5 ± 13.1 years) who were admitted to Jinling Hospital (Nanjing, China) between October 2015 and February 2017. Study recruitment occurred within 3 days of stroke onset. The participants were free of preexisting thyroid disorders apart from benign nodules and were not taking any medications known to potentially influence thyroid function.

Design, size, and duration
Fasting blood samples were collected at 6 AM on the second postadmission day, and a standardized radioimmunoassay kit was used to quantify various thyroid hormones including thyroid-stimulating hormone (TSH). This study detected PSF using a validated Chinese version of the 9-item Fatigue Severity Scale (FSS). The FSS was administered during the acute poststroke phase and at a 6-month follow-up timepoint. A multivariate regression model was used to identify the predictors of PSF.

Main results and the role of chance
PSF was diagnosed in 292 (41.5%) participants in the acute poststroke phase and in 224 (35.3%) participants at the 6-month follow-up timepoint. Higher TSH levels were associated with a reduced risk of PSF both in the acute poststroke phase (odds ratio, 0.30; 95% confidence interval, 0.24–0.37) and at the 6-month follow-up timepoint (odds ratio, 0.70; 95% confidence interval, 0.58–0.84).

Bias, confounding, and other reasons for caution
Thyroid hormone levels were only measured once during the acute poststroke phase. This study’s analyses were not adjusted for all potential confounders. Various stroke risk factors may increase the risk of fatigue.

Generalizability to other populations
The generalizability of this study’s results may be limited due to the study’s single-center nature and the exclusion of stroke patients with serious cognitive and communication deficits.

Study funding/potential competing interests
This study was funded by the National Science Foundation of China. The authors report no competing interests. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.
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Neurology 2018;91:e1971-e1978 Published Online before print October 26, 2018
DOI 10.1212/WNL.0000000000006534

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