

Terence J. Quinn, MD

In acute stroke, we are lucky to have a number of efficacious treatments supported by a robust evidence base. However, before we think about treatment, we first need to make the diagnosis of stroke and make some estimate of likely outcome. This is not always straightforward, and much of the skill, challenge, and reward of stroke medicine comes from the diagnostic and prognostic decision making required for each patient. For this month's Literature Synopsis, I have selected articles that are themed around diagnosis and prognosis. This is an area of stroke where I feel we need more research and I hope to see, and discuss, more articles on these themes in future Synopses.

I consider myself an evidence-based practitioner, but there will always be areas of practice where we have limited research to guide decision making. In this context, it is reassuring to see results that confirm something I had, based on experience, always assumed to be the case. Most stroke physicians will recognize that patients who have made recovery from a previous disabling stroke can appear to show a re-emergence of clinical deficits when they are subject to physiological stressors such as infection or metabolic disturbance. In a registry-based case-control analysis using data from the Massachusetts General Hospital, the existence of this syndrome was proven (Topcuoglu MA, Saka E, Silverman SB, Schwamm LH, Singhal AB. **Recrudescence of deficits after stroke clinical and imaging phenotype, triggers, and risk factors.** *JAMA Neurol.* 2017;74:1048–1055. doi: 10.1001/jamaneurol.2017.1668) and was given a new name and abbreviation—poststroke recrudescence (PSR). The description of a typical case of PSR may give clinicians more certainty in making this diagnosis. In the case series, patients with PSR had a symptom complex that could occur many years after the index stroke. Symptoms were generally mild and lasted less than 24 hours. This is a nice diagnostic study, but I was left wondering about prognosis. Does a systemic illness with associated PSR have a poorer prognosis than a similar illness with no PSR?

One of the most difficult prognostic decisions is when to withhold or withdraw active stroke treatment. In a study of 60 patients with severe stroke admitted to 2 centers in the Netherlands, stroke physicians' estimates of prognosis were compared with the actual 6-month patient outcomes. (Geurts M, de Kort FAS, de Kort PLM, van Tuijl JH, Kappelle LJ, van der Worp HB. **Predictive accuracy**

**of physicians' estimates of outcome after severe stroke.** *PLoS One.* 2017;12:e0184894. doi: 10.1371/journal.pone.0184894) Physicians were relatively good at predicting death, 1 patient predicted to die, survived, and 1 patient predicted to survive was dead at 6 months. However, predictions around functional outcome were less good and generally too optimistic (false-positive rate 0.3). Predictions around quality of life were even less accurate. For a cohort with severe initial stroke, I was surprised at the high proportions of patients reporting favorable quality of life. This suggests that my predictive accuracy is also limited and is a salient reminder of the dangers of making prognostic decisions too early.

Atrial fibrillation (AF) and stroke is an exemplar of an area where we are increasingly aware of the shortcomings in our prognostic understanding. Patients with true paroxysmal AF, the definition of which varies from guideline to guideline, are at greater risk of cardioembolic stroke than those with sinus rhythm. Frustratingly, the most common result from ambulatory cardiac monitoring is neither sustained sinus nor AF but bursts of atrial arrhythmia that are too short to meet any diagnostic criteria. The Find-AF investigators (Find Atrial Fibrillation) used their data to describe the implications of supraventricular runs (Weber-Krüger M, Lutz C, Zapf A, Stahrenberg R, Seegers J, Witzhausen J, et al. **Relevance of supraventricular runs detected after cerebral ischemia.** *Neurology.* 2017;89:1545–1552. doi: 10.1212/WNL.0000000000004487). The results of 3.7-year follow-up confirmed that even short supraventricular runs were associated with more stroke events and more incident AF. Given the frequency of these short runs of arrhythmia on ambulatory monitoring (around a third of patients in this study), this is an important finding. Now the important question is What should we do with patients who have this abnormality? Anticoagulation would seem intuitive, but the efficacy and economics of anticoagulation in patients who do not fulfill AF diagnostic criteria remain to be proven.

Can we better stratify the risk of incident AF? Certainly various modifiable risk factors for incident AF have been described. We know that high levels of alcohol consumption can predispose to AF, but the importance of moderate alcohol remains a subject of debate. We will never see a randomized controlled trial of therapeutic alcohol and so we are reliant on observational research, with all the caveats that come with such studies. A national registry-based study

From the Institute of Cardiovascular and Medical Sciences, University of Glasgow, United Kingdom.

Correspondence to Terence J. Quinn, MD, Institute of Cardiovascular and Medical Sciences, University of Glasgow, Glasgow, United Kingdom. E-mail terry.quinn@glasgow.ac.uk

(*Stroke.* 2018;49:e5-e6. DOI: 10.1161/STROKEAHA.117.019655.)

© 2017 American Heart Association, Inc.

*Stroke* is available at <http://stroke.ahajournals.org>

DOI: 10.1161/STROKEAHA.117.019655

from Norway (47 002 participants, 1697 new AF diagnoses) gives a reasonably precise estimate of risk. (**Gémes K, Malmo V, Laugsand LE, Loennechen JP, Ellekjaer H, László KD, et al. Does moderate drinking increase the risk of atrial fibrillation? The Norwegian HUNT (Nord-Trøndelag Health) Study. *J Am Heart Assoc.* 2017;6:e007094. doi: 10.1161/JAHA.117.007094**) The

authors describe a curvilinear relationship between alcohol and incident AF, but the risk of moderate alcohol (defined in this study as 1 drink per day for women and 2 drinks per day for men) was negligible, with a population-attributable risk of 0.07 (95% confidence interval, -0.01 to 0.13). This is reassuring news for my quality of life, so I'll drink to that. Cheers!

# Stroke

JOURNAL OF THE AMERICAN HEART ASSOCIATION



## *Stroke* Literature Synopses: Clinical Science Terence J. Quinn

*Stroke*. 2018;49:e5-e6; originally published online December 6, 2017;  
doi: 10.1161/STROKEAHA.117.019655

*Stroke* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231

Copyright © 2017 American Heart Association, Inc. All rights reserved.

Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the  
World Wide Web at:

<http://stroke.ahajournals.org/content/49/1/e5>

**Permissions:** Requests for permissions to reproduce figures, tables, or portions of articles originally published in *Stroke* can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the [Permissions and Rights Question and Answer](#) document.

**Reprints:** Information about reprints can be found online at:  
<http://www.lww.com/reprints>

**Subscriptions:** Information about subscribing to *Stroke* is online at:  
<http://stroke.ahajournals.org/subscriptions/>