Editors' Note: Readers' correspondence this week brings out new points in 2 recently published articles. L.R. McGill and Dr. Boylan offer evidence from their own data to support the findings of Dr. Dakka et al. that noncutting needles reduce incidence and duration of post lumbar puncture headache (PLPH) compared to cutting needles. Dr. Hess wanted to know if 4-aminopyridine (4-AP) changed the duration of episodic ataxia (EA) attacks in addition to reducing their frequency, as the authors showed. Dr. Strupp, in a post hoc analysis of the raw data, showed that it did not, but discussed the possibility of dosing playing a role.

Megan Alcauskas, MD, and Robert C. Griggs, MD

HEADACHE RATE AND COST OF CARE FOLLOWING LUMBAR PUNCTURE AT A SINGLE TERTIARY CARE HOSPITAL

Leighanne R. McGill, Kevin B. Boylan, MD, Jacksonville, FL: We read the article by Dakka et al.¹ analyzing incidence of PLPH with cutting needles with interest. Our current research offers substantial evidence supporting their conclusions regarding the advantages of noncutting, atraumatic needles.

In an ongoing longitudinal biomarker study, we collected CSF by standard lumbar puncture in 20 patients with amyotrophic lateral sclerosis. We used only Quincke (cutting) needles initially but we transitioned to Whitacre2 (noncutting) needles in an effort to minimize risk of PLPH. Fifteen of 20 patients had at least 1 of 3 lumbar punctures using a Quincke or Whitacre needle, allowing direct comparison of PLPH rate with cutting vs noncutting needles in the same subjects. PLPH rate was 30% with Quincke needles and 9% with Whitacre needles for patients undergoing lumbar puncture. Hence, the rate of occurrence of PLPH with a noncutting needle was one-third the frequency of PLPH with a cutting needle. Mean duration of PLPH was 5 days for cutting needles vs 1.67 days for noncutting needles.

Our results empirically support the conclusion of Dakka et al. that routine use of noncutting lumbar

puncture needles could potentially result in fewer procedure-related adverse events and concomitant reduction in procedure-related costs.

Author Response: Y. Dakka, Detroit; N. Warra, Livonia, MI; R.J. Albadareen, Mission, KS; M. Jankowski, Detroit; B. Silver, Providence, RI: We appreciate the interest of L.R. McGill and Dr. Boylan in our study and read with interest the details of their observations. Of note, they also observed a reduced duration of headache with the noncutting needle as compared to that of the cutting needle. These findings also have implications for the indirect costs of PLPH, including days lost from work by the patient, the caregiver, or both, and additional time allocated toward headache treatment.²

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A RANDOMIZED TRIAL OF 4-AMINOPYRIDINE IN EA2 AND RELATED FAMILIAL EPISODIC ATAXIAS

Ellen Hess, Atlanta: “A randomized trial of 4-aminopyridine in EA2 and related familial episodic ataxias”¹ follows this group’s preliminary report on how 4-aminopyridine (4-AP) is one of few compounds that effectively blocks attacks in EA2 patients.^{1,2} The authors convincingly demonstrate that 4-AP reduces the frequency of attacks, but it would be interesting to know if it modified the severity or duration of the attacks.

A rough calculation based on the values provided for total number of attacks and duration per month suggests that although EA 2 patients experienced fewer attacks, breakthrough attacks in patients taking 4-AP lasted the same amount of time as in patients on placebo. A similar effect was previously demonstrated in the tottering mouse model of EA2 whereby

4-AP reduced the frequency but not the severity of attacks.³ Taken together, the results from human and mouse studies suggest that 4-AP inhibits the initiation of an attack, but once instigated 4-AP has little effect.

Author Response: Michael Strupp, Jens Claassen, Roger Kalla, Munich; Joanna Jen, Los Angeles:

We appreciate Dr. Hess' comments. Implicit in the design of our study was to investigate the efficacy of 4-AP as a prophylactic rather than abortive agent in episodic ataxia. A post hoc analysis of the raw data revealed that the main prophylactic effect of 4-AP was on the frequency of the attacks, not on their duration or severity. The mean duration of attacks at baseline was 1.9 hours, whereas during treatment with 4-AP it was 2.3 hours. This finding has clinical implications. Whether attacks may occur when the blood concentration of 4-AP is low and whether 4-AP taken at the onset of an ataxic episode may hasten symptomatic resolution will require further

investigation. Since its mean elimination half-life is 2.9 hours,⁴ 4-AP in 4 or 5 single doses may be more effective than 3 daily dosings in those with frequent attacks. The sustained-release form of 4-AP (Ampyra) may prove even more effective. Placebo-controlled, double-blind crossover studies on Ampyra in episodic ataxia are currently in progress in both Germany and the United States.

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A randomized trial of 4-aminopyridine in EA2 and related familial episodic ataxias

Ellen Hess, Michael Strupp, Jens Claassen, et al.

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