patients with a history of childhood abuse, however, had lower awakening cortisol levels and decreased diurnal cortisol variation compared with FM patients without a history of childhood abuse.

These findings are congruent with those of a recent study (2) which similarly found that FM patients with a history of childhood abuse had low awakening cortisol levels in combination with flattened diurnal cortisol rhythms and greater awakening cortisol responses. Results of both studies are in accordance with findings concerning the high prevalence of emotional trauma in FM patients (3) and suggest that there may be a distinct subgroup of FM patients sharing pathophysiologic processes with a variety of other disorders such as depression, posttraumatic stress disorder, and borderline personality disorder (4,5). Although further replication is needed, these findings also suggest that trauma history should be routinely assessed in FM patients (3) and that future research should investigate differential treatment regimens for FM patients with and without trauma history.

However, we also believe that the study by McLean et al (1) has important limitations beyond those acknowledged by the authors. First, salivary cortisol levels were only measured for 2 consecutive days, while methodologic recommendations concerning daily experiences studies typically suggest that data should be collected for several days or even weeks to obtain ecologically valid estimates of diurnal cycles (6). Second, because McLean et al's study did not include objective stress measures, conclusions may be limited in another way as well. Indeed, as a recent meta-analysis of cortisol response studies in depression (7) suggests, vulnerability to stress might not only be reflected by blunted or increased stressor-induced cortisol responses, but also by impaired *recovery* from these responses. Third, as McLean et al (1) themselves point out, their small sample size precluded several meaningful analyses of genetic and personality factors mediating or moderating the relationship between trauma and neuroendocrine abnormalities (3,8). Nonetheless, even despite these obvious problems with statistical power, the authors found that both anxiety and anger considerably influenced the association between cortisol and pain.

In sum, future investigators should study the relationship between stress, pain symptoms, and cortisol levels during a longer period and in larger samples, using objective stress measures and focusing on both biologic and psychosocial mediators and moderators, to unravel the complex interactions between psychosocial and biologic factors in the etiopathogenesis of FM.

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Reply

To the Editor:

We appreciate the thoughtful comments of Drs. Luyten and Van Houdenhove regarding our recent study, in which we examined the momentary relationship between diurnal salivary cortisol levels and FM symptoms in a naturalistic setting. Among women with FM, a strong relationship between cortisol level and current pain symptoms (but not fatigue or stress symptoms) was observed upon waking and 1 hour after waking. Cortisol levels alone were associated with 38% and 14% of FM pain variation at these respective time points. In addition, examination of diurnal cortisol variation among FM patients suggests that FM patients with a history of physical or sexual abuse have lower awakening cortisol levels and decreased diurnal cortisol variation compared with FM patients without such a history. These findings are consistent with those of another recent study (1).

We agree with Drs. Luyten and Van Houdenhove, and we also believe that early life stress may alter hypothalamic–pituitary–adrenocortical axis function in ways that contribute to vulnerability to developing chronic pain conditions in later life, including FM (2). Since studies identifying a high prevalence of early life stress in FM patients have come primarily from academic medical center samples (3,4), the prevalence of early life stress among (more typical) community FM samples is not known. However, we agree that this and other evidence is sufficient to recommend that it may be useful to screen FM patients for a childhood trauma history, and that those reporting such a history should be referred for appropriate treatment. One useful resource for health care providers and patients in the US is the National Child Abuse Hotline, 1-800-4-A-CHILD (1-800-422-4453). This hotline provides resources and support for adult victims of early life stress or abuse, and it can refer participants to a range of services in their local area.

We also agree with our colleagues that measuring salivary cortisol levels for more than 2 consecutive days would have increased the precision of our diurnal cortisol estimates. A primary goal of the study was to assess FM patients in a

naturalistic setting, comparing the momentary relationship between symptoms and cortisol levels. We chose a shorter assessment period in an attempt to minimize study intrusion into participants' lives. Similarly, as we noted in our report, we assessed stress, pain, and fatigue symptoms using simple 10-point Likert scales to minimize disruption of participants' daily activities. We believe that this choice likely enhances the generalizability of our findings to "real world" patients. However, as the authors note, there are also trade-offs (e.g., lack of standardized stressor) with the use of this methodology.

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Further support for the statins as antiinflammatory and immunomodulatory agents: comment on the review by Abeles and Pillinger and the editorial by Arnaud and Mach

To the Editor:

I very much enjoyed the review of statins as antiinflammatory and immunomodulatory agents by Drs. Abeles and Pillinger (1), as well as the accompanying editorial by Drs. Arnaud and Mach (2). These investigators have presented compelling evidence to support further investigation of this group of agents in treating rheumatologic disorders.

Although the review was clearly very comprehensive, I would like to add existent data regarding the observed effect of statin administration to mevalonate kinase–deficient patients with the hyperimmunoglobulin D syndrome, as provided by Simon and colleagues (3). Those investigators reported that 5 of 6 patients treated with simvastatin had a decrease in the number of days during which they were febrile and a decrease in the urinary mevalonic acid concentration.

Unfortunately, Simon et al did not measure cytokines in their experiment. It has, however, been demonstrated that peripheral blood mononuclear cells from patients with the hyperimmunoglobulin D syndrome release increased levels of interleukin-1β (IL-1β), IL-6, and tumor necrosis factor α compared with patients with familial Mediterranean fever and normal controls (4). This lends further encouragement and support for continued investigation of the utility of hydroxymethylglutaryl-coenzyme A inhibitors in treating inflammatory rheumatologic diseases.

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Possible role of tick-borne infection in "cat-scratch disease": comment on the article by Giladi et al

To the Editor:

In the report of their excellent study of "cat-scratch disease"–associated arthropathy, Giladi et al provide a comprehensive review of chronic arthropathy caused by infection with *Bartonella henselae* (1). The authors state that this "often severe" arthropathy "should be classified in the infection-related arthropathy group, potentially similar to Lyme disease arthritides." The similarity to Lyme disease may be more than coincidental.

Infection with *B henselae* has been recognized as an emerging tick-borne disease (2–9). The organism has been detected in questing *Ixodes* ticks in North America, Europe, and Asia (4–9), and in some areas the prevalence of *B henselae* in ticks is reportedly higher than the prevalence of *Borrelia burgdorferi,* the spirochetal agent of Lyme disease (4). *Peromyscus leucopus,* the white-footed mouse, serves as a reservoir for both *B burgdorferi* and *B henselae* (10). The fact that 72% of "cat-scratch disease" cases in the US occur in a seasonal pattern between June and December supports the notion of arthropod transmission of *B henselae,* and human infection via bites from flies, fleas, and mites may also occur (2,9). *Bar-*