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LETTER TO THE EDITOR

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Nerve conduction tests in patients with fibromyalgia: comparison with normal controls

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To the editor:

Paresthesias in the extremities are a common complaint in fibromyalgia (FM) patients, and the role of the peripheral nervous system in paresthesias in FM patients is not clear. I would like to thank Drs. Caro and Winter for their interest and who raised several points on my paper about nerve conduction tests in FM patients with paresthesias [1]. They mentioned the low mean age of the FM patients in my study as a possible source of bias. In the review of the studies on FM published from different cities of Turkey in recent years, the mean age of the FM patients reported were similar and even lower than the population presented in my study [2, 3, 4]. In addition, the control subjects were age- and sex-matched with the FM patients. However, certainly new studies including older and male patients from different geographic areas will better serve for generalizing results of the present study to all FM population.

Control subjects in this study were selected depending on medical history and physical examination. Subjects with positive histories of neurologic disease or any systemic disease which may result in neuropathy (diabetes mellitus, vasculitis...) were not included. Subjects without any neurologic complaint and with normal neurologic examinations were recruited. In 4% of the normal control subjects, electrophysiologically documented carpal tunnel syndrome had been reported previously [4], a percentage comparable with the one in my study (5.9%). Although I do not feel that mild and localized electrophysiologic abnormalities observed in three of the control subjects had a major effect on the study results, new studies excluding such cases will help to clarify the involvement of peripheral nerves in FM patients.

Soleus H reflex studies are not included in nerve conduction study protocol for polyneuropathy by some authors [5]. According to AAEM guidelines, the nerve conduction study for polyneuropathy should include H reflex and/or F wave studies in one leg [5]. Therefore H reflex and/or F wave can be chosen as a late response study for polyneuropathy. But knowing that soleus H reflex studies are more helpful in detection of mild and early polyneuropathies [6], inclusion of this study in electrophysiologic examination protocol will be appropriate in future research of FM patients.

Drs. Caro and Winter noted my rejection of the close p value for tibial nerve CMAPamp (0.053), but I think they overlooked the higher mean CMAPamp observed in FM patients when compared with controls. As CMAP amplitudes decrease in neuropathies [6], the difference observed between the FM group and controls in tibial nerve CMAPamp cannot be accepted as evidence of generalized neuropathy. The only detected significant electrophysiologic abnormalities in the *t*-test were prolonged peroneal distal motor latency ($P = 0.048$) and decreased peroneal motor conduction velocity ($P = 0.030$). With these limited abnormalities localized to a single nerve in which compressive neuropathy is common, it was difficult to talk about a generalized polyneuropathy in FM patients.

When the Mann-Whitney U test was applied to the data according to the suggestions of Drs. Caro and Winter, the only significant difference between groups was in tibial nerve motor conduction velocity ($P = 0.030$). The remaining 25 parameters of nerve conduction studies were not different in FM and control groups ($P > 0.05$), but P values for peroneal distal motor latency ($P = 0.056$) and peroneal motor conduction velocity ($P = 0.054$) were very close to the statistical significance level. These results, together with the mild but uniform decreases in motor conduction velocities (Table 3) and the mild but uniform prolongation of F wave latencies (Table 4) in FM patients (although not statistically significant), raised the possibility of a very mild generalized polyneuropathy in this patient group.

This study is the first one to evaluate peripheral nerves in FM patients with paresthesias prospectively

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and with a standard electrophysiologic study protocol. Besides its limitations, the observed higher frequencies of carpal tunnel syndrome and peroneal nerve abnormalities are important findings of this study. New studies with more extensive and detailed electrophysiologic examinations conducted with larger populations will further help understanding the peripheral nervous system involvement in FM patients. I would like to thank to Drs. Caro and Winter for their suggestions and encouragement for future studies in this field.

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