

The Nerve! Readers Speak

Reader response: Smartphone use and primary headache: A cross-sectional hospital-based study

Joe Jacob (Thrissur, India)

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I read the article by Uttarwar et al.¹ with interest. We are reporting special cases of bikers using mobile phone by inserting it inside their helmet over the pinnae, resulting in difficult-to-treat headache. One of our first patients was a building engineer who used to converse with his workers continuously during his ride, with phone over the ear inside the helmet. Several medications were tried for his headache until, during one of his visits, we found out his peculiar habit. Although mobile handsets are known to cause headaches, it is something inevitable in day-to-day life.^{2,3} This is because during the past few decades, several functions other than communication are integrated into it such as camera, torch light, email, internet access, videos, music, and games. Our patient reduced phone calls after our advice and also started using headsets, with which he started improving without using medications. We had several other patients with headache associated with continuous mobile phone usage.

1. Uttarwar P, Vibha D, Prasad K, Srivastava AK, Pandit AK, Dwivedi SN. Smartphone use and primary headache: a cross-sectional hospital-based study. *Neurol Clin Pract* 2020;10:473–479.
2. Frey AH. Headaches from cellular telephones: are they real and what are the implications? *Environ Health Perspect* 1998;106:101–103.
3. Wang J, Su H, Xie W, Yu S. Mobile phone use and the risk of headache: a systematic review and meta-analysis of cross-sectional studies. *Sci Rep* 2017;7:12595.

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Deepti Vibha (New Delhi)

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We thank Dr. Jacob for the comment on our research article¹ and share similar observations noted in your practice. Because headache is a common neurologic problem and smartphone use is practically unavoidable in the modern era, drawing an association may be possible in your quoted case but to prescribe decreasing its use among all primary headache patients is something that requires more longitudinal studies. It may be added to the list of triggers of headache once there is more evidence. Our cross-sectional study provides the necessary association to carry this hypothesis further.

1. Uttarwar P, Vibha D, Prasad K, Srivastava AK, Pandit AK, Dwivedi SN. Smartphone use and primary headache: a cross-sectional hospital-based study. *Neurol Clin Pract* 2020;10:473–479.

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Reader response: Therapeutic benefits of early electrophysiological testing in a functional neurology case

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We read the article by Powell et al.¹ with interest. We advocate using clinical neurophysiology to help make the diagnosis of functional neurologic disorders (FND). Such testing can improve diagnostic certainty. We agree that the testing is valuable but for the opposite reason that the authors suggest. The clinical findings themselves were suggestive of FND. The neurophysiology points to a cerebral abnormality of motor and sensory functions. Despite the normal neuroimaging, this still could have been an episode of demyelination or another disorder. Functional disorders are often seen together with other neurologic disorders,² a situation often referred to as functional overlay. These abnormal evoked responses could be the consequence of FND. However, many more clinical neurophysiologic studies of FND have shown normal central motor and sensory conduction.³ If the findings were normal, that would be good evidence for a functional disorder. As they were abnormal, the interpretation is less certain. From a clinical point of view, the patient had positive features of FND, so it was reasonable to treat those aspects of his presentation, but not—in our view—using the clinical neurophysiology as evidence of that diagnosis.

1. Powell A, Hurelbrink CB, Hayes MW. Therapeutic benefits of early electrophysiological testing in a functional neurology case. *Neurol Clin Pract* 2019;9:532–534.
2. Stone J, Carson A, Duncan R, et al. Which neurological diseases are most likely to be associated with “symptoms unexplained by organic disease.” *J Neurol* 2012;259:33–38.
3. Hallett M. Neurophysiologic studies of functional neurologic disorders. In: Hallett M, Stone J, Carson A, eds. *Functional Neurologic Disorders Handbook of Clinical Neurology*, Vol 139. Amsterdam: Elsevier; 2016:61–71.

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Author response: Therapeutic benefits of early electrophysiological testing in a functional neurology case

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We entirely agree with the comments expressed by Professor Hallett et al. in response to our article¹ regarding the use of electrophysiology to investigate probable functional neurologic disorders (FNDs). We point out in our article that electrophysiology is typically normal in FNDs and, indeed, is important evidence to support that diagnosis. However, we also mention that a small proportion of FNDs can demonstrate transient electrophysiologic abnormalities and that these seem consistent with other reported abnormal functional imaging, perfusion, and morphometric MRI studies in this group. FNDs are unlikely to be homogeneous disorders, and it may be that these exceptional cases provide insights into underlying mechanisms. This was precisely the reason for reporting this case of abnormal electrophysiology because, in our opinion, there was very robust evidence supporting a FND diagnosis: an incongruous clinical picture, pristine MRI imaging of whole spine and brain, absence of relevant signs, presence of positive phenomena, and rapid recovery.

1. Powell A, Hurelbrink CB, Hayes MW. Therapeutic benefits of early electrophysiological testing in a functional neurology case. *Neurol Clin Pract* 2019;9:532–534.

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