

# Comment on “Mobile phone radiofrequency exposure has no effect on DNA double strand breaks (DSB) in human lymphocytes”

S. M. Javad Mortazavi

Fox Chase Cancer Center, Philadelphia, PA, USA

Correspondence to: S. M. Javad Mortazavi. Professor of Medical Physics, Visiting Scientist, Fox Chase Cancer Center, 333 Cottman Avenue, Philadelphia, PA 19111, USA. Email: S.M.Javad.Mortazavi@fccc.edu.

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I have read with interest the article by Danese *et al.* entitled “Mobile phone radiofrequency exposure has no effect on DNA double strand breaks (DSB) in human lymphocytes” that is published in the *Annals of Translational Medicine* (1). Danese *et al.* in their article have tried to investigate the potential genotoxic effect of mobile phone radiofrequency exposure on human peripheral blood mononuclear cells *in vitro*. They reported that exposure of human lymphocytes to mobile phone radiation did not significantly affect DNA integrity. Despite its challenging topic, this paper has major shortcomings. Over the past decade, my colleagues and I have studied the health effects of exposure to radiofrequency electromagnetic fields (RF-EMFs) emitted by mobile phones (2-12). The first major shortcoming of this paper comes from this point that the authors have not measured the key factors such as the specific absorption rate (SAR) (13-16) in their blood samples. They even have not provided any information about the SAR level of the mobile phone used in their study or the power density (17,18) at the distance they placed the samples. Interestingly, they have discussed the characteristics of the battery and the dimensions of the mobile phone, while very important factors such as the distance between mobile phone antenna and the samples are entirely forgotten. Moreover, it's not clear whether the samples were located in the near field of the cell phone antenna or far field.

Moreover, the authors have not explained the characteristics of the talk mode (whether white noise or a constant level of sound signal was used or the mobile phone was in talk mode without sending or receiving any sound signal). It should be noted that the level of RF-EMF varies in these conditions. Therefore, as very important factors

such as the magnitude of the absorption of RF-EMF energy are not known, this study cannot be reproduced by other researchers. Altogether, methodological shortcomings of this study have possibly affected the validity of its findings.

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## Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

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