

Diagnostic performance of the human serum ferritin level decreased due to mobile phone exposure

Sir,

In the recent publication by Movahedi *et al.*,^[1] it is stated that determination of serum ferritin level, a sensitive inflammatory biomarker, has been identified as a diagnostic marker of acute phase reactions, including inflammatory conditions.^[1] However, determination of the power and the best cut-off point of this biomarker for predicting preterm labor play a critical rule for the diagnostic performance of this intracellular iron storage protein.^[1]

Determination of ferritin is performed based on an immunoassay technique and it should be noted that since each laboratory has its own conditions and instruments, results obtained in various laboratories may differ from each other.^[2,3]

Recently Shahbazi *et al.* have investigated that, mobile phones exposure results in reduction of human chorionic gonadotropin during the immunoenzymometric assay in laboratory.^[4]

This study aimed to investigate whether the ferritin levels in the test could be interfered by the exposure to the 900 MHz cell phones in the laboratory. Fifty human serum wells from 25 normal healthy donors were placed into two batches, and the well heads in the first batch were exposed to 900 MHz exposure emitted from a speech mode cell phone (Nokia, Model 1202, India) for 30 minute. Unexposed batch was served as the control sample under identical conditions and was compared with the exposed one in quantitative determination of ferritin using the Wilcoxon test with criterion level of $P = 0.050$.

Results revealed that, ferritin level in the exposed batch showed a significant decrease in werum ferritin relative to the control batch ($P = 0.029$) [Figure 1]. Radiofrequency electromagnetic waves emitted from cell phones may lead to oxidative stress and rapid diffusion of the human ferritin. Also, the enzyme activity can be affected.

The evaluation of the diagnostic performance of the human serum ferritin in the laboratory needs further

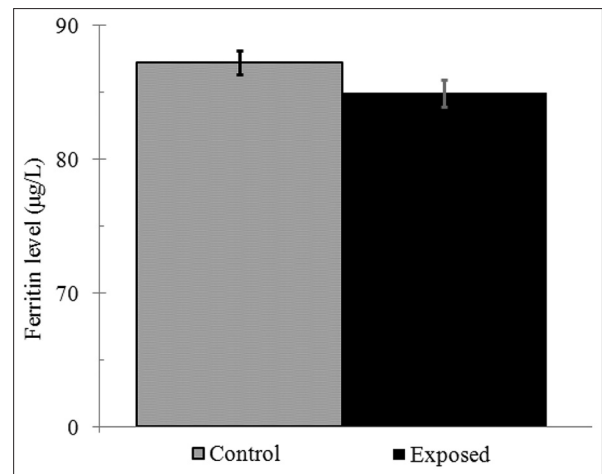


Figure 1: Human serum ferritin level (average \pm SD) among control and the exposed groups.

considerations. Moreover, effect of exposure from mobile phones is a complex process that needs the combined contributions of many scientific regulations.

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