

ABSTRACT

BACKGROUND:

Epilepsy is a common nervous system disease with worldwide prevalence of 7.0 %. The main stay of treatment for epilepsy is medical treatment. Folic acid and vitamin B12 deficiency occurs in some epileptic patients on long term treatment with enzyme inducing antiepileptic drug particularly Phenytoin and this may lead to the development of anaemia. Early identification of vitamin deficiency is crucial to prevent the progression of anaemia to a significant degree.

AIM:

To estimate serum vitamin B12 and folic acid level in patients on Phenytoin monotherapy and to assess the relation between Phenytoin monotherapy duration and development of vitamin B12 and folic acid deficiency.

MATERIALS AND METHODS:

Epileptic patients attending neurology OPD at Stanley medical college and hospital were selected for this study. According to the duration of Phenytoin treatment, they were divided into cases and control. Cases with >1 year and control <1 year duration of Phenytoin treatment. Basic biochemical investigations, CBC and peripheral smear study done.

Serum folic acid and vitamin B12 assay were done. Association between vitamin B 12 and folic acid deficiency with duration of Phenytoin therapy were evaluated. Statistical analysis done using Excel software.

RESULTS:

The mean of folic acid level is low (2.61 ± 1.81) as a duration of treatment increases (>1 Year) compared to control (7.01 ± 4.40) which is statistically significant ($p < 0.00001$). Serum Folate level were correlated significantly ($r = 0.1$, $p = 0.001$) with duration of Phenytoin treatment (>1 year). The mean of vitamin B12 level is low.

CONCLUSION:

The present study concludes Folic acid and vitamin B12 deficiency occurs in epileptic patients treated with long term Phenytoin therapy. The duration of Phenytoin therapy significantly affects the development of vitamin B12 and folic acid deficiency.

KEYWORDS: Antiepileptic drug, Phenytoin, Vitamin B12, Folic Acid, Anaemia.