

# Abstract

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## Serum and erythrocyte folates in combined iron and folate deficiency.

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**OBJECTIVE:** A high incidence of iron and folate deficiency was found in 80 female subjects living in a private institution.

**METHODS:** Iron therapy in individuals with low serum iron values resulted in a significant increase in hemoglobin levels. An improvement in serum and RBC folate levels was also found following iron therapy but this could not be attributed to treatment since a similar increase was observed in untreated control subjects, probably due to an increased dietary intake of folates during the study period. In subsequent studies small amounts of pteroylglutamic acid were given to all patients and their response to therapy was related to initial serum and RBC folate values.

**RESULTS:** No correlation between serum folate levels and response to folate therapy could be demonstrated. Red cell folate levels on the other hand correlated well with response to therapy. A significant increase in hemoglobin was found following folate therapy in patients with low RBC folates, but not increase in subjects with normal RBC folates. Conversely, the increase in hemoglobin following iron therapy in subjects with normal RBC folates was three times as much as in patients with low RBC folates.

**CONCLUSION:** Thus, unlike serum folate determinations, RBC folate measurements are a reliable index of tissue folate stores, and useful in the prediction of response to folate therapy in both the iron-deficient and iron-replete states.

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