

Megaloblastic marrow in macrocytic anaemias at Kenyatta national and M P Shah Hospitals, Nairobi

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Abstract:

Objective: To determine the diagnostic value of megaloblastic marrow in patients with possible vitamin B12 and/or folate deficiency and to look for criteria that could be used in diagnosis of vitamin B12 deficiency. Design: Prospective study. Setting: Kenyatta National Hospital and MP Shah Hospital, Nairobi. Subjects: Patients of all age groups and both sexes presenting with clinical and blood picture of macrocytic anaemia. Main outcome measures: Response to vitamin B12 injections. Vitamin B12 deficiency diagnosed by the following methods: Vitamin B12 serum level assays alone, bone marrow examination alone and both vitamin B12 assays and bone marrow examination. Response was measured clinically and by increase in haemoglobin level after three weeks of treatment. Results: Three hundred and forty three patients were evaluated; 156 (45.5%) were males, and 187 (54.5%) females. Age range was 13-80 years and a mean of 37.7 years. Initial investigations were as follows: 21.9% had vitamin B12 assays only, 59.2% bone marrow examination only and 19.9% both vitamin B12 assayed and bone marrow evaluated. Haemoglobin increase after a total of 6,000 mcg of vitamin B12 was between 2.6 - 4.6 g/dl in three weeks. Reticulocytes measured on day ten ranged between 12% and 17%. Uniform improvement in all patients was observed for white blood cells (WBC) and platelet counts. Other significant results and observations included clinical improvement in the signs and symptoms of anaemia after the 6,000 mcg injection of vitamin B12 given over three weeks. Serum folic acid level was determined in 21% of cases and in all these it was normal. Conclusion: The important practical points were response to vitamin B12 in all cases and the importance of re-assessing patients after a total of 6,000 mcg of vitamin B12, Folic acid deficiency was not detected. Patients in these two institutions with megaloblastic anaemia had vitamin B12 deficiency. It is proposed that a model consisting of oval macrocytosis on blood film and megaloblastic bone marrow be treated with vitamin B12 injections in settings where vitamin B12 serum level assays are not easily available.