Reversible Cutaneous Hyperpigmentation in Vitamin B12 Deficiency

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A 66 year old male presented with generalised weakness, hyperpigmentation of knuckles and decreased appetite since two months. Clinical examination revealed a bald tongue, pallor, glossitis, stomatitis, knuckle pigmentation, palm pigmentation, pigmentation of the sole (Figures 1, 2 and 3). Systemic examination was normal. Haemogram showed a decreased haemoglobin (8.3 gm/dl), leucopenia (3600/cumm), thrombocytopenia (87,000/cumm) and increased MCV (116.2 fl) and MCH (34.9 pg) levels. Peripheral blood smear showed macrocytes, macroovalocytes and anisopoikilocytosis. Serum vitamin B12 level was 46 pg/ml (normal range 211-911 pg/ml) and increased MCV (116.2 fl) and MCH (34.9 pg) levels. Peripheral blood smear showed macrocytes, macroovalocytes and anisopoikilocytosis. Serum vitamin B12 level was 46 pg/ml (normal range 211-911 pg/ml). Bone marrow examination showed a mildly hypopcellular, hypofunctioning marrow with features of vitamin B12 and folic acid deficiency. Antiparietal cell antibody and upper gastro-intestinal endoscopy were normal. ACTH stimulation was negative and rest of the laboratory investigations including thyroid function tests were within normal limits. Patient was treated with intramuscular injection of vitamin B12 (1000 microgm) daily for ten days, then weekly for one month and then monthly for two months and a multivitamin tablet daily containing vitamin B₁₂ (1500 microgm) was continued. His haematological profile returned to normal limits within one week of treatment. Haemoglobin had increased to 12gm/dl, total leucocytes to 8200/cumm and MCV had decreased to 94.5 fl and peripheral blood picture returned to normal. Within one or two weeks patient’s symptoms of generalized weakness decreased and the pigmentation over the knuckles, palms and soles of the feet decreased significantly (Figures 4, 5 and 6).

Common causes of vitamin B12 deficiency are malabsorption, pernicious anaemia or gastric resection and inadequate intake, especially in strict vegetarians. Vitamin B12 deficiency is commonly associated with neurological and hematological manifestations, generalized weakness, syncope, and diarrhoea. Hyperpigmentation of skin has been reported rarely as a presenting manifestation of Vitamin B12 deficiency.¹ Hyperpigmentation related to vitamin B12 deficiency is more common in dark skinned patient.² Other causes of generalized pigmentation need to be ruled out. Our case illustrates one of the rare manifestations of vitamin B12 deficiency.

References