ACQUIRED HAEMOLYTIC ANAEMIA WITH MEGALOBLASTIC ANAEMIA

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The purpose of this paper is to report an interesting case of acquired haemolytic anaemia associated with megaloblastic anaemia. This condition is a haematological rarity and as far as I am aware, no such cases have been reported locally. Megaloblastic anaemia as a complication of acquired haemolytic anaemia has been reported (Baikie and Pirrie, 1956).

CASE REPORT

A male Chinese tailor aged 55 years was admitted on 17.7.59 into the General Hospital Singapore with a history 20 years' tremors of the hands and loss of appetite and weakness of the legs for 6 months. He has been receiving regular treatment with Artane for Parkinsonism for the last 6 years. There was no history of jaundice or malaria. Bowel habits remained unchanged and there was no relavent family history.

ON EXAMINATION

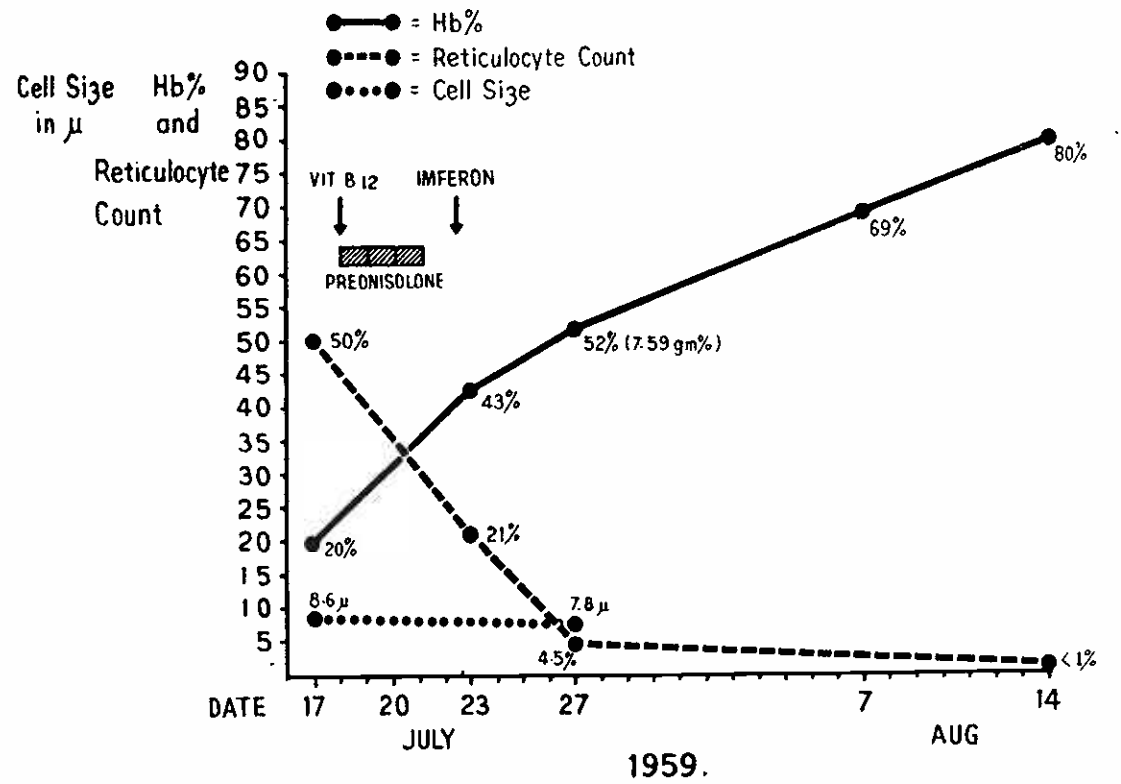
He was afebrile, severely anaemic and very lightly jaundiced. There was slight ankle oedema, no spongy gums, no lead line nor sternal tenderness. The spleen was not palpable. There were neurological signs of Parkinsonism.

INVESTIGATIONS

Hb. 2.98gm.% T.R. 0.9M/cmm. T.W. 1100/cmm. Reticulocyte count 50%. P.C.V. 12%. M.C.V. 133c.micron. M.C.H. 4 micro-microgram. M.C.H.C. 36%. Average cell size = 8.6 microns. The peripheral blood showed marked anisocytosis, moderate poikylocytosis and polychromasia, few normoblasts and some densely stained macrocytes. Marrow smear showed a megaloblastic haemopoesis. Direct Coomb's Test was positive. The Indirect Test was negative and there were no cold agglutinins. A Glucose-6-phosphate dehydrogenase deficiency test for drug-induced haemolysis was negative. Urine: No bile, urobilinogen present in excess. Serum bilirubin was 1.2 mg.%.

TREATMENT AND PROGRESS

He was treated with one injection of vitamin B_{12} 1000 microgram and prednisolone tablets 15 mg. three times a day for three days and these were followed by intramuscular and oral iron (see graph). His tremors were controlled with tablets Artane 2 mg. three times a day. On 27.7.59, i.e. ten days after admission, his haemoglobin rose to 7.59gm.% and the reticulocyte count has fallen to 4.5%. Blood film now showed



well haemoglobinised mature red cells and the average cell size was 7.8 microns. The marrow has reverted to normoblastic activity. Follow-up investigation showed further improvement. He was discharged on 14.8.59, due to shortage of beds, with a haemoglobin of 80% and a reticulocyte of less than 1% (see graph).

DISCUSSION

Megaloblastic haemopoeisis is occasionally seen when there is prolonged increase in blood cell formation as is evidenced by the high reticulocyte count in this case. The cause of this type of haemopoeisis in such conditions as haemolytic anaemia, leukaemia and polycythaemia vera is not definitely known. Folic acid deficiency (Girdwood, 1956) was thought to be responsible but vitamin B_{12} deficiency (Baker et al., 1958) has also been incriminated. The cause of the megaloblastosis in this case is probably twofold, firstly, a nutritional deficiency and secondly, an extreme exhaustion of the marrow as a result of the haemolytic process.

Megaloblastic blood formation has been observed more often in association with haemolytic anaemias than in myeloproliferative syndrome. Megaloblastic anaemia has been reported as a complication of haemolytic anaemia (Baikie and Pirrie, 1956), thalassaemia (Jandl and Greenberg, 1958), sickle-cell anaemia (Jonsson, 1958) and congenital spherocytosis (Kohler et al., 1960), the last of which was associated with pregnancy. A case of congenital spherocytosis with megaloblastic anaemia not associated with pregnancy, however, was reported by Delamore et al. (1961).

Pregnancy as a precipitating factor in causing megaloblastic anaemia is well known. In this case, in view of the long term treatment with artane for the Parkinsonism, this drug was suspect. However, investigation for drug-induced haemolysis (Vella, 1959) was negative.

Megaloblastic anaemia associated with polycythaemia vera (Hinz, 1957), and (Charmers and Richmond, 1961) and leukaemia (Zarafontis et al., 1957) are even rarer.

The response of the haemolytic and megaloblastic processes to prednisolone and vitamin B_{12} respectively in this case is worthy of note.

Megaloblastic change should be borne in mind in a patient presenting with severe anaemia associated with haemolysis or pancytopaenia.

SUMMARY

A case of acquired haemolytic anaemia associated with megaloblastic anaemia is described. The likely causes are discussed and other associated conditions complicated by megaloblastic anaemia are mentioned. The marked response to treatment with prednisolone and vitamin B_{12} is noted.

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