

Medical Memoranda**Recurrent Leukaemoid Reaction in Pernicious Anaemia Complicated by Gastric Carcinoma***British Medical Journal*, 1969, 2, 612-613

A myeloid leukaemoid blood picture is commonly found in acute infections, tuberculosis, or myeloid metaplasia. Its lymphatic counterpart, however, is relatively rare, though it has been described in association with pertussis, acute infectious lymphocytosis, and neoplasia, especially carcinoma of the stomach (Bichel, 1949). In the following case a recurrent lymphocytic blood picture, with several features suggesting leukaemia, occurred in a patient with pernicious anaemia, antedating by five years the clinical appearance of carcinoma of the stomach.

CASE REPORT

The patient, a woman aged 56, was admitted to hospital in February 1963 complaining of severe exertional dyspnoea, general malaise, and headache. On examination she was thin, pale, blue eyed, and white haired. There was an early atrophic glossitis. There was no lymphadenopathy or hepatosplenomegaly, and there were no abnormal neurological signs. On investigation her haemoglobin was 6.16 g./100 ml. The white count was 22,000/cu. mm. (89% mature lymphocytes, 7% polymorphs, 4% smear cells); platelet count 198,000/cu. mm.; and reticulocyte count 2.6%. Red cells were normochromic with anisocytosis and slight polychromasia. Macrocytes were present, and an occasional normocyte was seen in the peripheral film. The serum vitamin B₁₂ was 89 µg./ml. and the serum folate 5.5 µg./ml. The formiminoglutamic acid test was negative. There was a histamine-fast achlorhydria. A Schilling test showed 0.4% excretion of the labelled dose of vitamin B₁₂ in 24 hours (normal greater than 8%), and was corrected by the addition of intrinsic factor. Coombs test was negative. Serum iron was 273 µg./100 ml. Total bilirubin was never greater than 0.8 mg./100 ml. Occult blood tests were persistently negative.

A diagnosis of Addisonian pernicious anaemia was made in spite of red cell hypoplasia on marrow biopsy. A further marrow biopsy was examined and showed unequivocal megaloblastic erythropoiesis with increased marrow lymphocytes. Mature megakaryocytes were scanty, but the chief feature was that 71% of all the nucleated marrow cells were mature, small lymphocytes. A tentative diagnosis was initially made of chronic lymphatic leukaemia in association with pernicious anaemia.

A barium-meal examination performed at this stage showed the typical smooth, atrophic mucosal pattern and "bald fundus" associated with gastric atrophy, but no other lesion was seen (Fig. 1).

Treatment was started with vitamin B₁₂ intramuscularly. In spite of a poor reticulocyte response, bone marrow erythropoiesis became normoblastic within two weeks of starting treatment. Once again increased marrow lymphocytes were noted. After one month, however, the haemoglobin had risen only to 8 g./100 ml., so that blood transfusion was carried out before her discharge from hospital. She subsequently received monthly injections of vitamin B₁₂.

Two months later she was readmitted because of signs and symptoms of severe anaemia. There was no lymphadenopathy or hepatosplenomegaly. Her haemoglobin was 4.3 g./100 ml. The white count was 9,400/cu. mm., of which 80% were mature lymphocytes. She was retransfused and again discharged from hospital. Thereafter, as seen from Fig. 2, she required multiple hospital admissions for blood transfusion (23 units) because of recurrent anaemia. On each occasion a marked lymphocytosis was noted, but no evidence of haemorrhage or haemolysis was found. In January 1964 a further marrow biopsy showed normoblastic erythropoiesis, but

once again an excess of mature marrow lymphocytes were seen. In April 1964 chlorambucil was begun because of increasing transfusion requirements (see Fig. 2). Thereafter she never again required to be transfused.

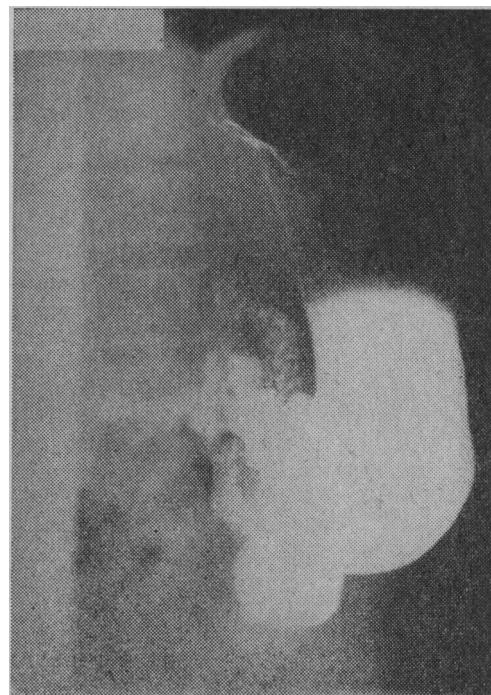
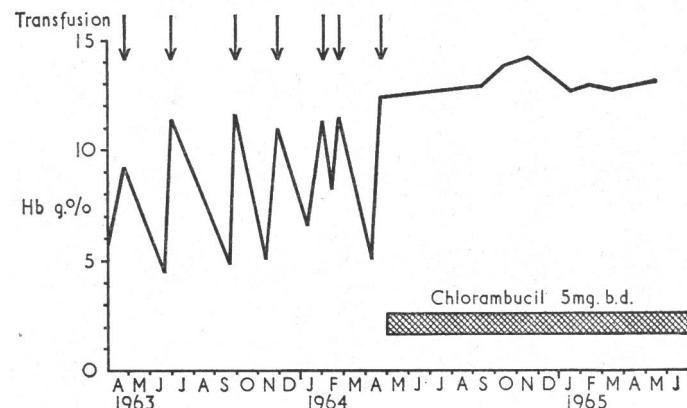


FIG. 1.—Radiograph showing "bald fundus."



differentiated adenocarcinoma which had completely replaced the node. The patient subsequently deteriorated rapidly and died in February 1968.

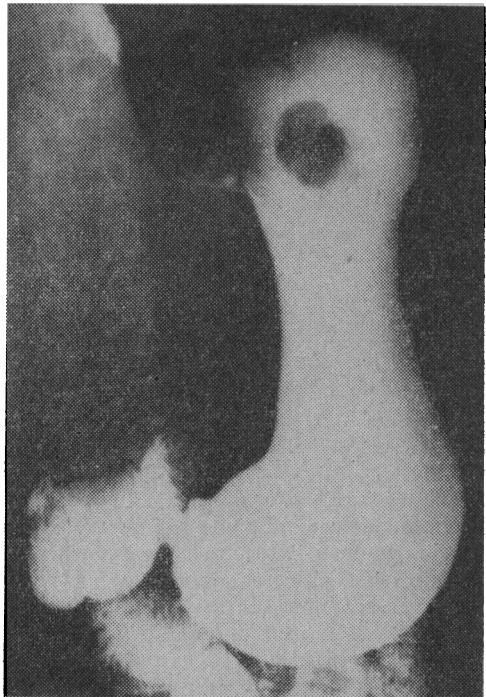


FIG. 3.—Radiograph showing large polypoid carcinoma of stomach.

Necropsy showed a fundal carcinoma of the stomach with regional lymph node involvement and deposits in the liver and lungs. There was bilateral bronchopneumonia. A careful search was made for lymph nodes, but the only ones found were those to which metastasis had occurred. The spleen was small, weighing only 74 g. Macroscopically there was no evidence of leukaemic infiltration of any organ, nor did histological examination show leukaemic deposits. The red marrow had extended to fill the whole shaft of one femur examined. Similarly, red marrow was very prominent in all the vertebral bodies. Numerous microscopic deposits of carcinoma were found in two vertebrae and in the femur.

COMMENT

There can be little doubt that when this patient was first seen she was suffering from pernicious anaemia. She died from a carcinoma of the stomach, a complication arising in about 10% of cases (Zamchek *et al.*, 1955). The nature of her lymphocytic response is, however, open to question. The findings in the marrow and peripheral blood when she first presented were very suggestive of a lymphatic leukaemoid reaction. Her subsequent course with a poor response to vitamin B₁₂, the need for repeated blood transfusions in the absence of haemolysis or blood loss, and, in particular, the dramatic response to chlorambucil suggested that this was a leukaemic process. The absence of post-mortem evidence of leukaemia, however, makes this hard to sustain. The coexistence of pernicious anaemia and chronic lymphatic leukaemia has been described (Rich and Schiff, 1936; Mason and Schwartz, 1949; Ikkala and Kaipainen, 1962). Although this association may be coincidental, a significantly higher incidence of pernicious anaemia in the families of leukaemic patients has been described (Videbaek, 1946). Cases of myeloid leukaemia and pernicious anaemia have also been described (Sterne *et al.*, 1941; Woolley, 1944).

It is tempting to speculate whether the presence of a long-standing lymphocytic leukaemoid reaction was a marker of subsequent malignant change in the stomach.

We would like to thank Dr. A. E. Read for permission to report this case.

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Relapsing Amoebic Colitis of 12 Years' Standing Exacerbated by Corticosteroids

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A case of amoebic colitis undiagnosed for 12 years and exacerbated by systemic corticosteroid therapy is described. The difficulties in differentiating amoebic colitis from non-specific ulcerative colitis have been previously reported (Wright, 1966). However, misdiagnosis still occurs, and cases of amoebic colitis are treated with corticosteroids which may be followed by grave consequences. It is therefore hoped that this case report will draw further attention to the problem.

CASE REPORT

A 33-year-old Englishman who had lived in Malaya and Singapore in 1955 and 1956 developed diarrhoea with blood and mucus in the stools six months after his return to the United Kingdom. Stool microscopy was said to have shown only *Giardia lamblia* cysts and he was treated with meprazine with some temporary improvement. Six months later his symptoms had become worse and he was admitted to a general hospital, where sigmoidoscopy showed proctocolitis. Stool microscopy on this occasion was negative and he received symptomatic treatment. However, within 10 months a further admission to hospital was necessary and on this occasion *G. lamblia* cysts were again seen in the stool samples. He received "small doses of cortisone" and more meprazine. After this he improved and remained asymptomatic until March 1965, when he began passing frequent loose stools with blood and mucus. Several