

# The detection of post-gastrectomy deficiency syndromes in general practice

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**SUMMARY.** Post-gastrectomy deficiency syndromes were investigated in a rural practice. The main finding was a high prevalence of iron deficiency both with and without anaemia. Regular checks on iron level in the follow-up of these patients is suggested.

## Introduction

THE desirability of regular follow-up in general practice for patients who have undergone gastrectomy is well recognized, but it is not clear how extensive this should be.<sup>1,2</sup> The complications that should concern the general practitioner are deficiency syndromes due to malabsorption; they can be grouped into anaemias related to iron or vitamin B12 and folate metabolism, bone disease related to vitamin D and calcium metabolism, and malnutrition.

A system for 'birthday follow-up' was published in 1972,<sup>1</sup> whereby patients would come for an annual check-up in the month of their birthday. It was suggested that the blood tests should include a blood film and measurement of haemoglobin, serum calcium, phosphate, alkaline phosphatase and serum vitamin B12 levels. A check on serum iron was also suggested. An audit of such a system in general practice was carried out by Barley and Mathers;<sup>3</sup> as a result they adjusted their scheme so that only a full blood count and measurement of serum iron were done annually, the other tests being performed every five years.

Our practice keeps a register of patients who have undergone gastrectomy, and from 1979 they had been recalled annually for a full blood count only. A study was designed to assess the effectiveness of this policy; it was carried out from a health centre serving 9,400 patients in a relatively prosperous rural community.

## Method

In early 1983 the 25 patients on the gastrectomy register were invited by post for consultation; only one patient, a known defaulter, was not seen. The 24 patients were assessed clinically, and blood samples were taken for determining full blood count, erythrocyte sedimentation rate (ESR), and levels of alkaline phosphatase, serum protein, calcium, phosphate, vitamin B12 and folates, and iron. After reattendance for review and any necessary treatment, they were advised to return annually during the month of their birthday.

## Results

The results of these investigations (Table 1) showed a low incidence of vitamin B12 and folate deficiency in those patients not already on replacement therapy, and no definite evidence of osteomalacia.

The most common deficiency was that of iron, but only a small proportion of these patients were actually anaemic and many did not even have a depressed mean corpuscular haemoglobin (MCH) level to suggest iron deficiency. A review of the notes of patients in the study showed that 50 per cent of both the males and the females had suffered iron deficiency requiring therapy at least once; many of these patients had attended on account of symptoms attributable to the deficiency, which often resulted from anaemia.

## Discussion

The incidence of anaemia after partial gastrectomy has been found to vary between 4 per cent and 63 per cent, depending on the study criteria used.<sup>4</sup> Hines and colleagues<sup>5</sup> showed that half those who have had this operation will be anaemic for up to 20 years afterwards,

**Table 1.** Results of relevant tests

	Male patients (n=18)	Female patients (n=6)
<b>Anaemia</b>		
Hb < 13.6g dl <sup>-1</sup> (males)	3	0
Hb < 11.6g dl <sup>-1</sup> (females)		
<b>Iron deficiency</b>		
Saturation below 26% (males), 20% (females)	10	1
Iron deficiency detected by MCH < 27.5	5	0
Already on iron therapy	2	2
<b>Vitamin B12 deficiency</b>		
Absorption < 200 ng l <sup>-1</sup>	1	0
Already on vitamin B12 replacement therapy	4	5
<b>Folate deficiency</b>		
Absorption < 5 µg l <sup>-1</sup>	2	0
Already on folic acid therapy	2	5
<b>Osteomalacia</b>		
Combined changes in serum calcium and alkaline phosphatase as indications	0	0

Abbreviations: Hb, haemoglobin; MCH, mean corpuscular haemoglobin.

about 60 per cent of these patients showing iron deficiency, 30 per cent vitamin B12 deficiency and 4 per cent folate deficiency.

The results of this study are compatible with the above, but they suggest that iron deficiency without anaemia is also frequent in these patients — possibly still developing, to present finally as anaemia.

Iron deficiency without anaemia is a well-known entity giving rise to dysphagia and chronic fatigue.<sup>6</sup> Studies of working women with iron deficiency showed that only one third of them manifested the deficiency as anaemia,<sup>7</sup> yet almost half of a non-anaemic yet iron-deficient group showed a significant positive haemoglobin response to supplementary iron.<sup>8</sup> This beneficial response to therapy would seem to justify detection and treatment of the condition in post-gastrectomy patients, even if it did not portend an anaemia.

Frequent routine checks on iron absorption in addition to the full blood count would appear to be indicated in the follow-up scheme for postgastrectomy patients.

## References

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## Leptospira outbreak in cattle and man

Cases of infection in man have been reported in milkers working in the pit of the now commonplace herringbone milking parlour. The milker works at udder level and is thus liable to be contaminated by urine, either by direct facial splashes or from aerosols generated when the urine falls to the parlour floor. A survey carried out by the Central Veterinary Laboratory and VI Centre in 1980 showed that about 23 per cent of cattle in the south west of England have serological evidence of infection with *L. hardjo*. High levels of infection have also been found in other parts of the country.

The possibility that milkers using this parlour system may acquire infection from chronically excreting carrier cows is thus very real. In humans, hardjo infection accounts for about one quarter of all cases of leptospirosis diagnosed in Great Britain. The usual feature of hardjo infection is the severity of the headache, but occasionally more serious complaints such as meningitis, as in the patients in this outbreak, and even death, may occur. However, in general *L. hardjo* infections usually give rise to a mild 'flu-like illness with a severe frontal headache and a prolonged recovery period. Treatment of such mild cases can be with amoxycillin 500 mg three times a day for 5 days but if the patient shows signs of developing a more serious complication, then a more aggressive therapeutic regime needs to be initiated immediately, using benzylpenicillin 12–16 mega units daily for 5 days, then 2.4 mega units daily for a further 5 days.

Source: PHLS Communicable Disease Surveillance Centre. *Communicable Disease Report* 1984; Weekly Edition CDR 84/13.