TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some diseases of the blood and blood-forming organs met with in general practice.

IDIOPATHIC AND SECONDARY HYPOCHROMIC ANAEMIA

BY

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While the microcytic hypochromic anaemias fall clearly into two groups—idiopathic (or primary) and secondary—certain features are common to both. Thus there is a deficiency or lack of utilization of iron; achlorhydria gastrica is a very common feature; and the usual signs and symptoms of hypochromic anaemia are to be noted, in addition to koilonychia, absence of neurological involvement, and blood changes, which include moderate or severe reduction in haemoglobin, frequently slight reduction in the number of red blood cells with a consequent low colour index, and diminished average size of red cells.

Idiopathic hypochromic anaemia is the commoner form, the so-called Plummer-Vinson syndrome of achlorhydria, glossitis, dysphagia, and anaemia being essentially the same disorder. Chlorosis, although at one time so common in young women, is now rarely seen.

Secondary hypochromic anaemia closely resembles idiopathic hypochromic anaemia in most of its manifestations, but, as its name implies, it is always secondary to some definite aetiological factor, to which particular attention must be paid when instituting treatment; hence the importance of identifying, where possible, the primary cause of the anaemia. In this group we note anaemia following dietetic deficiencies (especially of iron-containing foods), as in chronic starvation, food faddism, and a too rigid uncompensated dietary in the treatment of gastrointestinal ulceration, both without or following operative procedures. Hypochromic anaemia due to the last condition may also in part be caused by impairment of absorption of iron, exaggerated by an acquired achlorhydria; these latter factors may be closely associated with the particular development of this type of anaemia after gastrectomy or in association with neoplasm of the stomach, caecum, and colon.

The nutritional hypochromic anaemia of infants is seen more particularly when the mother also suffers from iron deficiency, and this may be linked up in many cases with the hypochromic anaemia secondary to pregnancy, which closely resembles idiopathic hypochromic anaemia. Pregnancy, however, is usually the precipitating factor when the demands of the foetal and maternal blood-forming mechanisms cannot be adequately met, owing to a deficient iron intake and defective iron absorption and utilization.

Scurvy, pellagra, syphilis, sprue, idiopathic steatorrhoea, and chronic phthisis are often associated with a secondary hypochromic anaemia, which requires not only anti-anaemic therapy, but also the particular specific treatment for these conditions.

Chronic intermittent or continuous haemorrhages from the alimentary or genito-urinary tracts (for example, haemorrhoids, neoplasm, menorrhagia) often lead to the production of a hypochromic anaemia, of which the onset is so insidious that the gradually falling level of haemoglobin is not noticed until the symptoms of anaemia become pronounced.

Search for Causal Factor

The treatment of both idiopathic and secondary hypochromic anaemia is essentially the same, and is very readily carried out once the diagnosis has been established. It is, however, of first importance that no treatment should be given until this has been done. Thus the first step before beginning the treatment of secondary hypochromic anaemia is a complete haematological examination to determine the type of anaemia, followed by a fractional gastric analysis and such further examinations for the identification or exclusion of causal factors as may be indicated in the clinical examination of the patient. Special care must be taken to exclude malignant disease of the stomach or colon, particularly when hypochromic anaemia is found in males. In this way attention may be directed to the treatment of toxic foci (teeth, tonsils, etc.), the correction of intestinal stasis, and the localization of sites of chronic haemorrhage. Haemorrhoids and chronic gastro-intestinal haemorrhages will call for their special treatment, but careful examination of the faeces must be made to eliminate the possibility of parasitic infestation (for example, *ankylostoma duodenale*), for which, if present, appropriate anthelmintic treatment will be given.

The frequent association of menorrhagia with hypochromic anaemia often renders difficult the certain differentiation as to their sequence of onset. The presence of severe hypochromic anaemia with glossitis, koilonychia, flatulence, dyspnoea, diarrhoea, and achlorhydria suggests that the menorrhagia is due to the anaemia; the induction of an artificial menopause is therefore not indicated, since with the treatment of the anaemia the loss diminishes in proportion to the improvement in the blood picture. The anaemia, however, which follows chronic excessive uterine haemorrhage calls for gynaecological consideration (hysterectomy or radium therapy), carcinoma and fibroids being common causal factors. After artificial menopause the response to anti-anaemic treatment is successful.

Diet

As has already been indicated nutritional hypochromic anaemia may arise from deliberate or accidental errors in diet; accordingly special attention must be paid to this factor.

A full normal mixed diet must be insisted upon, including red meat and other iron-containing foods such as green vegetables, especially spinach. It is often advisable when achlorhydria is present to omit from the diet oily and fatty foods, cream, and excessive carbohydrates, butter being reduced to moderate amounts. Since many of these patients are considerably undernourished it is important to ensure that adequate food is really available, and extra nourishment must be prescribed, when necessary, through the appropriate authority. The addition of one teaspoonful of marmite daily, as well as of lemon, orange, and tomato juices, is of great value, since a deficiency of vitamins, especially B₂ and C, is frequently associated with these nutritional defects. (It should be mentioned that certain of these patients may be unable to tolerate orange juice, although lemon and grape-fruit juices are much appreciated.)

Iron Preparations

My remarks so far have applied mainly to secondary hypochromic anaemias. In both secondary and idiopathic hypochromic anaemias successful treatment depends particularly on the administration of adequate amounts of iron given in a suitable form and capable of easy assimilation from the alimentary tract. A large number of iron preparations have been tried, but the most satisfactory, efficient, and economical ones appear to be the ferrous salts and the scale preparation—ferric ammonium citrate. The therapeutic efficiency of these preparations is apparently due to their ready solubility and the ease with which they liberate ferrous ions in such solution. Unfortunately ferrous salts themselves are very readily oxidized to the less active ferric salts; some care, therefore, is needed in their use if potency is to be maintained, and it must be remembered that the sulphate shows a tendency to produce gastric irritation in some individuals.

Of the ferrous salts the most valuable are ferrous chloride, ferrous sulphate, and ferrous carbonate (Blaud's pill). Ferrous chloride is the most efficient, probably because it is the form into which most of the available iron is converted in the stomach before absorption. It can be stabilized in various ways, particularly by the use of glucose or acid solution, so that as a therapeutic agent it is of much value in the treatment of hypochromic anaemia. For this purpose I find that a total daily dose of 9 to 18 grains of stabilized ferrous chloride (Boots), made up into capsules of 3 grains each (that is, one to two capsules thrice daily after meals), is sufficient for the most severe degrees of hypochromic anaemia. In this form it maintains its ferrous condition very well.

Ferrous sulphate in similar dosage—for example, tab. ferrous sulphate exsicc. (Glaxo)—may be used. Pil. ferri carb. (Blaud's pill) is also of considerable value in doses of 15 to 30 grains thrice daily after meals when freshly made: it is often of advantage to crush them before taking.

It happens from time to time that a patient is unable, from idiosyncrasy or dysphagia (Plummer-Vinson syndrome), to take capsules or pills. In these cases iron salts must be administered in solution, and the following may be employed:

R. Ferri et ammon. cit. gr. xxx
Aq. ad 3 i
3 i three or four times daily.

It is of considerable importance to appreciate that iron must be given in sufficient quantity in order that a satisfactory clinical response may be obtained. The required dose is large, and may vary with different patients. Thus one may respond to 30 grains of ferric ammonium citrate three times daily (90 grains in the day), while another requires this quantity four times daily (120 grains). In like manner the ferrous salts may need some variation in individual dosage. Consequently lack of improvement after the institution of treatment means either incorrect diagnosis, some complicating or untreated primary condition, or inadequate iron therapy. In the last case the dosage must be increased sufficiently; this can be done with safety, since large doses are easily tolerated by these anaemic patients. Pregnancy, often a factor in the development of hypochromic anaemia, does not contraindicate these large amounts; in fact considerable benefit is derived by both mother and foetus—nutritional hypochromic anaemia of infancy being thus prevented later.

Nutritional anaemia of infancy* is treated satisfactorily by the addition of 4½ to 9 grains of ferric ammonium citrate daily in the bottle feeds; this is conveniently carried out by supplying the mother with an aqueous solution of this compound in appropriate strength, so that

an aliquot proportion, say, 1 drachm, can be measured into the feeds.

The administration of iron by parenteral injection is not considered advisable, since the toxic dose is so close to the maximal therapeutic one. Until there is clear clinical evidence that the addition of copper, manganese, bile, or chlorophyll has any marked influence in these patients they are best omitted from the treatment.

Liver and stomach or extracts of them are also quite valueless in this type of anaemia, apart from their possible content of iron and vitamins; they merely subject the patient to unnecessary expense and trouble. To a less degree many of the mixtures of liver, iron, and other metallic salts supplied for the treatment of all kinds of anaemias are undesirable, because they usually fail to supply adequate amounts of the particular ingredient required (in this case iron), and introduce other unnecessary ingredients at great cost.

Other Symptomatic Treatment

On account of the achlorhydria gastrica many of these patients, particularly those with idiopathic hypochromic anaemia, suffer from flatulent dyspepsia, occasionally associated with diarrhoea. Much relief can be obtained from the following:

R. Acid. hydrochlor. dil. m xxx
Syr. aurant. q. s.
Glycerin. pepsin. (B.P., 1914) ad 3 ii
3 ii t.d.s., p.c. ex aq.

It is probable that this acid therapy assists to some degree in the preservation or formation of ferrous chloride from the iron salts used, at the same time aiding its absorption.

Constipation is sometimes associated with hypochromic anaemia, and is in no way due to the subsequent iron therapy. The bowels should be regulated by means of liquid paraffin, mild salines, cascara, or senna, drastic purgatives being avoided. The dysphagia associated with the Plummer-Vinson syndrome is of a functional nature, and rapidly disappears with improvement in the blood count. The passage of bougies is neither indicated nor desirable. Blood transfusions are not required in the ordinary cases of hypochromic anaemia, except when some major operative procedure is a matter of urgency.

In some patients there may be evidence of thyroid deficiency—dry skin, thin dry hair that is falling out, and a lowered basal metabolic rate. Small doses (1/4 grain twice or three times daily) of thyroid gland should then be prescribed for a time until a normal condition is regained.

Need for Periodic Blood Counts

Finally, careful control of treatment is essential. In the early stages a full blood count should be done at intervals of two weeks if possible, but certainly monthly, until a normal count is reached. The haemoglobin percentage should show a rapid increase with adequate treatment. When this does not occur the amount of iron must be increased, but at the same time a careful re-examination of the patient should be made for possible complications or failure of primary causes to respond to their specific treatments. Sepsis, of course, always tends to inhibit normal haemopoiesis, and should be vigorously combated. Only when the blood count becomes normal should the iron therapy be reduced to, say, 3 grains of ferrous chloride or 10 grains of Blaud's pill daily, and finally be discontinued after a further two weeks. Since hypochromic anaemia tends to return in many of these patients blood counts should be repeated at least every three to six months, and a course of iron therapy recommended if so indicated.

An important point to bear in mind is that a few of these patients ultimately show the features of a megal-

* A separate article is being devoted to this subject.

cytic anaemia of the pernicious anaemia type, when, of course, treatment with iron will no longer be effective, and the appropriate anti-pernicious-anaemia treatment with stomach or liver will then be required. This must always be suspected when a severe anaemia subsequently fails to respond to further iron therapy.

It will often be necessary to continue the hydrochloric acid and pepsin mixture so long as the patient complains of any gastro-intestinal discomfort.

Summary

In the management of patients with idiopathic or secondary hypochromic anaemia attention must be paid to the following points:

1. Diagnosis of type of anaemia, clinically and haematologically, with identification of complications, possible primary causes, and sepsis.
2. Treatment of causal factors and complications, if any.
3. Correction of diet with iron-rich foods and added vitamins, especially B₂ and C.
4. Adequate massive iron therapy with ferrous chloride or sulphate, Bland's pill, or ferric ammonium citrate.
5. Treatment of symptoms of gastro-intestinal disturbances with hydrochloric acid and pepsin.
6. Regulation of bowel action.
7. Careful control of treatment and progress by regular blood counts.
8. Periodical examinations, with further courses of iron therapy if required.

THE INSTITUTE OF MEDICAL PSYCHOLOGY

MINISTER OF HEALTH AT ANNUAL LUNCHEON

The annual meeting and luncheon of the Institute of Medical Psychology was held at the Wharnccliffe Rooms on May 4th. At the luncheon Sir Kingsley Wood, the Minister of Health, was the principal guest, and others present were Dr. Alfred Adler, Sir Hubert Bond, Sir Walter Langdon-Brown, Dr. A. S. MacNalty (Chief Medical Officer of the Ministry of Health), Sir Laurence Brock (Chairman of the Board of Control), Lord Snell (Chairman of the London County Council), and Sir Ronald Storrs.

Sir HENRY BRACKENBURY presided over both functions. Likening the annual meeting to a meeting of shareholders, he said that as chairman of the "company" he had to report a thoroughly unsound and very unsatisfactory financial position, and yet, as the result of the year's work, it was possible to declare a dividend beyond all price. The paradox was only to be resolved when it was said that the dividend was not to be regarded as a percentage financial return on the capital invested, but as representing ease of mind to the distressed, a new efficiency to the ineffective, and a gain in character to the weak of will. The dividend paid by the Institute in that kind of coin was beyond all valuation. It was sometimes forgotten that the Institute was a real hospital, with an in-patient department (called a hostel) as well as an out-patient department. The lease of the hostel premises expired in June of next year; a site had been obtained at considerable cost in the neighbourhood of the new University buildings in Bloomsbury, and there it was proposed to build the hostel, but ten months must be allowed for the building, and the council had determined that it ought not to start the work until an additional £5,000 was in hand, apart from the ordinary revenue for the maintenance of the Institute. He appealed that this additional sum might be brought into the coffers within the next three months.

Work of the Institute

Dr. J. R. REES, the medical director, gave some account of the work of the Institute, claiming that 55 per cent. of all the patients who were accepted for treatment were permanently relieved or cured, and that practically all the remainder received some benefit. Moreover, every patient improved was the nucleus of sound preventive work in his

own home and environment. He also spoke of the friendly atmosphere of Malet Place, unhurried and as little institutional as possible; but the length of the waiting-list—people approved for treatment who had to wait for weeks because the financial resources of the Institute were inadequate to provide the accommodation and services demanded—was a constant burden and anxiety.

At the luncheon a telegram was sent to Professor Sigmund Freud on his eightieth birthday, conveying the congratulations and good wishes of all present, and expressing admiration for his pioneer work. Sir HENRY BRACKENBURY said that the means of treatment employed at the Institute were embraced under the term "psychotherapy"; the staff adopted what methods or combination of methods they pleased, and the Institute was attached to none of the particular schools of psychology with which some of them had become rather familiar. Professor William McDougall was one of their vice-presidents. Dr. Adler of Vienna was their honoured guest. Professor Jung of Zurich not long ago gave them a week of lectures and seminars. And they heartily joined with the world of psychology in this expression of admiration and congratulations to the founder of psycho-analysis.

Sir Kingsley Wood on Early Treatment

Sir KINGSLEY WOOD began by referring to the great advance in the humane and scientific treatment of people who were suffering from mental illness. The Mental Treatment Act had been in operation for five years, and it was noteworthy that last year the number of rate-aided persons who were admitted to treatment in public mental hospitals without certification was nearly 30 per cent. of the whole admissions. That was a significant and gratifying indication of the facilities which were being given in that particular connexion. As the facilities were increased and the scope of early treatment was enlarged there was justification for the hope that at last the preventive treatment of mental disorders was beginning to be secured. Beyond the field of mental disorders, however, there was a large borderland of nervous disorders in which the Institute was playing a valuable, indeed an indispensable, part. The proper diagnosis and treatment of these ailments was essential to the well-being and happiness of the individual. Some figures published last year by Dr. Halliday of the Department of Health for Scotland showed that of 1,000 cases certified as unfit for work and examined by a medical referee over 30 per cent. were found to be incapacitated by some form of mental illness. It was indeed fortunate for the country that concentrated attention was being devoted to the treatment of these conditions. He noted that the number of new patients treated at the Institute last year was 1,206, as against 1,007 the year before. The acquisition of larger premises was at once a measure of the need of the work and of the optimism of those concerned. He referred also to the educational work of the Institute for the general practitioner and others. Two aspects of it merited special notice. In the first place, it was difficult to over-estimate the importance of such training to the practitioner, enabling him to detect and treat in their earliest stages the forms of mental illness which otherwise might develop so seriously for the individual himself and for society; and in the second place he was glad to learn of the increasing number of medical officers from the mental hospitals who had come to the Institute for refresher courses. This was one means of mitigating the isolation with which the medical staffs of the mental hospitals of the country were threatened.

Lord HOLLENDEEN, joint honorary treasurer, followed with a few remarks enforcing the Chairman of Council's plea at the earlier meeting for greater financial support. The Institute started as the Tavistock Clinic, and in its first year (1920) it had 248 patients; in 1932 it had over 700, and in 1935 over 1,200. To-day seventy doctors were giving some 500 treatments a week. The average cost per interview was 8s. 3½d., and the patient's contribution represented about one-third of that amount. He went on to speak of the proposed new buildings of the Institute in Store Street, Bloomsbury, to which some reference was made in a summary of the annual report in last week's *Journal* (p. 901).