two weeks of prophylactic therapy, what is the subsequent course? This remains to be answered, though the companies treated are to be followed up while at Fort Warren. Should a longer period than two weeks be tried? Is there a danger of creating a mass-sulphanilamide-fast organism? Such a possibility, particularly with the pneumococcus, *in vitro* and *in vivo*, has been indicated in a recent report of Schmidt, Sesler, and Deltwiler of Cincinnati, working with mice. Are there intraseasonal variations that may alter the figures offered in this report?

Summary

The incorporation of sulphanilamide in a lozenge offers a means of prolonged medication for such lesions of the mouth and pharynx as are amenable to treatment with the drug.

The results obtained in several hundred cases treated therapeutically and prophylactically indicate that this mode of sulphonamide medication shows promise.

I am indebted to Capt. Paul Schneider, Lieut. Leo Weyerich, Lieut. Walter Schwebel, and Lieut. James Moore for valuable assistance in formulating the statistical data and in observation of the patients treated therapeutically in the dispensaries. Capt. A. Walter Ecklund of the hospital laboratory kindly performed the laboratory work involved in this study.

REFERENCES

- Army Medical Bulletin* (1942). No. 64, p. 3.
Arnett, J. H. (1943). *Amer. J. med. Sci.*, **205**, 6.
Cattell, McKee (1943). *N.Y. St. J. Med.*, **43**, 428.
Cecil, R. L. (1941). *Textbook of Medicine*, 5th ed., Philadelphia.
Journal of Canadian Dental Association, **3**, 571.

HYPOCHROMIC ANAEMIA IN ADOLESCENT MALES

BY

M. L. THOMSON, M.D., M.R.C.P.

Honorary Assistant Physician, Salford Royal Hospital

Nine cases of hypochromic anaemia in adolescent males have been referred to me by military medical boards in Manchester during the past two years. Their ages range from 17 to 19, and they present a striking similarity in their clinical and haematological features. A tenth case, that of a man aged 45, belongs to the same group and indicates the later course of the condition in the absence of efficient treatment. Detailed observation was hampered by the men's unwillingness to lose work by attending for investigation and review. It has been

adolescent males receives little emphasis in current textbooks and the routine examination of recruits throughout the country must have revealed a considerable number of similar cases, the following brief clinical report is presented with a view to drawing attention to the condition, which may be more common than is realized.

In each case the anaemia was first noticed in early or middle childhood. Apart from Case 4, the mildest of the series, there is no history of serious illness. None gave a history of haemorrhage, bleeding piles, or jaundice. No family history of anaemia or jaundice was elicited. All the patients had lived a normal life, enjoying the usual boyhood activities, and were following occupations normal to their age without difficulty. Their pallor had been accepted as their natural complexion, and in most cases had not prompted them to seek medical advice. Patient No. 9 (aged 45) did not seek advice on account of his anaemia, which he regarded as trivial and incurable. He had lived an active life as an engineer and was in good general health. His history indicates the benign course of the untreated condition. This man showed good general development, but some of the youths looked small and immature for their age. The majority had not started to shave. None of them were aware of any symptoms of ill-health apart from slight breathlessness in the most severe cases. All professed to having received an adequate pre-war diet, including plenty of meat, vegetables, and fruit. Their post-war diet appeared to be that of the population at large.

On physical examination all the youths had a smooth pale skin with no evidence of jaundice. In four cases the tongue was noted to be smooth; in the remainder its appearance was normal. In nearly all the cases an apical systolic murmur of haemic origin was present. The spleen was just palpable in four cases, and in one, the most severe, was enlarged two fingerbreadths below the costal margin. Four cases showed spoon nails. In one of these the nails were normal and healthy after eleven months' treatment with iron. All but one (Case 10) showed evidence of deficient gastric acidity—complete achlorhydria in 5 cases and marked hypochlorhydria in 4. Table I gives the ages of the patients and the blood counts. Before treatment typical microcytes and ring cells were present and there was considerable anisocytosis with some poikilocytes. Case 5 was the most severe, and showed an unusual number of macrocytes—possibly a response by the marrow to the marked lack of iron. There was no direct evidence of haemolysis, since no case before treatment showed any reticu-

TABLE I

Case	Age (Years)	Treatment (Daily)	Period of Treatment	Haemoglobin (% Haldane Scale)		Mean Diameter of Red Blood Cells (microns)		Red Blood Cells (millions per c.mm.)		Leucocytes (per c.mm.)
				Before Treatment	After Treatment	Before Treatment	After Treatment	Before Treatment	After Treatment	
1	19	3 "iron" tablets None	12 months 4 "	56 —	— 110	6.8 —	— 7.2	4.96 —	— 6.6	8,000 —
2	19	6 fersolate tablets 3 fersolate tablets None	15 weeks 8 months 6 "	48 — —	102 116 114	6.8 — —	7.6 7.4 —	3.97 — —	— 6.42 —	5,800 — —
3	18½	3 "iron" tablets	3 "	48	102	6.8	7.4	4.01	5.46	8,000
4	17½	"Iron" tablets, dosage unknown	5 "	72	114	6.8	7.0	4.89	6.47	6,000
5	18½	1½ oz. Parrish's food 6 fersolate tablets 3 fersolate tablets	3 " 5 weeks 6 "	36 — —	46 102 112	7.9 — —	7.6 — —	2.55 — —	3.32 5.28 —	4,300 — —
6	19	—	—	50	—	6.9	—	4.49	—	3,800
7	19	—	—	58	—	6.9	—	5.20	—	5,000
8	19	—	—	48	—	6.7	—	4.34	—	6,800
9	45	6 fersolate tablets	10 weeks	58	108	6.9	7.0	5.61	6.41	8,000
10	17	6 fersolate tablets	5 "	46	100	6.9	7.2	4.71	6.30	5,400

possible, however, to note the effect of treatment in seven of the ten cases. These seven cases all responded fully to adequate treatment with iron. No obvious cause was elicited, and to term the condition "idiopathic" is merely to admit ignorance of their origin. Since this type of anaemia in

leucocyte increase or excess of urobilin in the urine. The serum bilirubin was at the lower limit of normality. The red cell fragility to saline was normal.

Where treatment could be observed all seven cases responded to iron by mouth (Table I). When we were able to undertake

treatment personally two fersolate tablets were given thrice daily till a normal count was attained. In Table II the details of the gastric analysis are given.

TABLE II.—*Fractional Test Meals. (Cases 1, 6, 7, 8, and 9 showed complete achlorhydria)*

Case		Specimens (hours)												
		Fasting	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3
2	HCl	6	0	0	0	8	9	6	6	14	0	0	0	0
	T.A.	16	8	8	6	12	18	12	18	24	8	8	6	6
3	HCl	0	0	0	0	0	0	0	0	0	0	0	5	12
	T.A.	10	10	10	12	12	10	10	10	12	10	10	32	40
4	HCl	0	0	0	5	0	0	0	0	0	—	—	—	—
	T.A.	5	5	10	20	5	5	5	5	5	—	—	—	—
5	HCl	0	0	0	0	5	5	5	0	0	0	0	0	0
	T.A.	10	10	10	10	20	20	20	15	15	15	10	10	10
10	HCl	32	20	8	15	18	32	35	30	8	0	0	0	—
	T.A.	44	35	26	24	36	48	55	40	26	15	15	18	—

HCl=Free HCl N/10 NaOH (% HCl).
T.A.=Total acidity.

It is of practical importance to determine whether a maintenance dose of iron is necessary when the anaemia has been overcome. These cases have not been observed long enough to determine this point. Patient No. 1 had received no treatment for four months previous to his second examination, when his haemoglobin was 110%. Patient No. 2 had received no treatment for six months previous to his last blood count. During this period the haemoglobin was maintained at a high level (Table I).

Discussion

It is not the purpose of this brief clinical report to discuss the many problems of iron metabolism and its relation to hypochromic anaemia. One or two points are worth emphasis. (a) Overt blood loss appears to play no part in the causation of the anaemias. (b) Careful inquiry into the diet gave no grounds for supposing that lack of dietetic iron is responsible for the anaemia. In general these men were particularly fond of the iron-rich foods—possibly a compensatory phenomenon. (c) The high incidence of hypochromic anaemia in the first few years of life and its comparative rarity in school-children suggest that in the present cases there is a specific deficiency. (d) The high incidence of defective gastric acidity suggests a connexion between gastric deficiency and the anaemia.

Summary

A brief clinical report is made of 10 cases of hypochromic anaemia of undetermined aetiology occurring in males. Nine of the cases were revealed by routine examination of adolescent recruits.

Medical Memoranda

Dehydration Fever

Cases of dehydration fever in the newborn are fairly common, but the following case is, I think, almost unique on account of the extreme degree of hyperpyrexia.

Last December I was summoned to attend a baby 3 days old which had been reported by the nurse in charge to have a temperature of 110° F. On arriving at the nursing home I found the infant in a state of extreme prostration; the pulse was weak and uncountable, and the rectal temperature was then 108.4°. This was checked by two thermometers. The child's face and body were almost lilac in colour, the tongue stiff and dry, the lips and mucous surfaces hot, red, and parched.

It was immediately plunged into a tepid bath and after some minutes glucose and saline were run into the rectum (the child being unable to suck). In half an hour the temperature had dropped to 102.4°, and in two hours it had settled at 100.4° F. The baby was by now breathing quietly, his natural colour was restored, and he was able to suck and swallow easily. He is now, ten months later, a fine specimen both physically and mentally.

I do not know how long such a temperature is compatible with life, nor do I know how long the baby had held it before it was first taken. I do know that an interval of 15 minutes elapsed between the recording of the temperature and the institution of treatment.

Swindon.

S. McDERMOTT, M.B., B.Ch.

Reviews

PRINCIPLES OF ORTHOPAEDIC SURGERY

A Practice of Orthopaedic Surgery. By T. P. McMurray, M.B., M.Ch., F.R.C.S.Ed. Second edition. (Pp. 435; illustrated. 30s.) London: Edward Arnold and Co. 1943.

Prof. T. P. McMurray's well-known textbook of orthopaedic surgery makes a welcome reappearance in a second edition. In his preface to this the author states that, though much of the original text has been rewritten and brought up to date and new illustrations have been added, an effort has been made to keep the book, so far as possible, the same size as before. In this object Prof. McMurray has succeeded admirably, and his book is still, as was the first edition, a handy, concise exposition of the basic principles of orthopaedic surgery intended primarily for the young surgeon and senior student. The subject-matter of the various diseases and deformities is clearly set out on a systematic plan with avoidance of too much confusing detail and theory, and under the sections on treatment only those operative procedures which have, in the author's wide experience, given the most consistently satisfactory results are described.

Differential diagnosis of the various conditions is given due weight, though under this heading mention might perhaps have been made of the now proved value of biopsy examination of the inguinal and iliac lymph nodes in tuberculosis of the knee and hip joints respectively. Prolapse of the nucleus pulposus of an intervertebral disc also has acquired so much notoriety of recent years that one wonders it did not find a place in a revised edition of this textbook as a cause of spinal nerve root irritation leading to sciatica, and especially to sciatic and alternating sciatic scoliosis. These, however, are small matters which do not detract at all from the value of an excellent and practical treatise on the principles of orthopaedic surgery in the direct tradition of the great Master of Orthopaedics, to whom the book is dedicated. The young orthopaedic surgeon who bases his practice on the lines so ably laid down for him in this book will certainly have no cause to regret it.

PROCTOLOGY FOR THE G.P.

Proctology for the General Practitioner. By Frederick C. Smith, M.D., M.Sc. Second revised edition. (Pp. 466; illustrated. \$4.50.) Philadelphia: F. A. Davis Company.

The most useful chapters in this book, from the point of view of the general practitioner, are those on ano-rectal symptomatology and methods of diagnosis. The author rightly attaches much importance to obtaining a careful history in cases with even minor rectal complaints, and complete routine examination is necessary if mistaken or incomplete diagnoses are to be avoided. The chapters on anaesthesia, parasites, venereal diseases, and constipation are reliable and full of information. The author uses local anaesthesia for minor procedures such as ablation of anal crypts or excision of papillae and thrombotic external piles, but prefers general anaesthesia for what he calls the major rectal operations, such as haemorrhoidectomy, cure of fistula, or excision of pilonidal sinuses. Chapter IX, on anal pruritus, should prove to be particularly helpful to practitioners, and we note that in the author's experience x rays and ultra-violet light have not given good results. He questions the value of undercutting operations. We might point out that the story of the doctor suffering from pruritus who had to devise a gadget to restrain his hands, which is related on page 235, is repeated almost verbatim on page 241.

For cure of anal fissures the only methods described are division of the sphincter and excision; there is no mention of local treatment for recent superficial fissures. Many of the surgical procedures described cannot be recommended and are contrary to the accepted practice in this country. For instance, five methods of haemorrhoidectomy are described, preference being given to the clamp and cautery operation. In particular we cannot support the author's rather loose description of ano-rectal abscesses and his advice that at the primary operation