a suitable diet, a change of environment, and the treatment of focal sepsis, form part of this regimen. It is doubtful whether drugs which are supposed to have a dilating action on the coronary vessels materially alter the course of the disease. For patients with cardio-aortic syphilis, iodides and mercury should always be prescribed; intravenous injections of arsenic are indicated in the early stages of the disease, and can be given under conditions of rest in moderately large doses.

As regards the narrowing or obstruction of the coronary arteries in relation to breathlessness and congestive heart failure, it is a well-known clinical experience to see congestive failure develop rapidly as a result of a sudden occlusion from infarction of a coronary vessel, or to have dyspnoea a striking symptom of arrest of the coronary circulation. When there is an insufficient blood supply to the myocardium from a narrowing of the coronary arteries as part of a general or local arterio-sclerotic process, the function of the heart is impaired and there is undue breathlessness on exertion. This is a common complaint in elderly people with cardio-vascular changes of a senile type, and is often observed in middle-aged hypertension subjects. With a gradual or rapid failure of the heart to maintain the general circulation of the body, the heart increases in size, and signs of congestive heart failure dominate the clinical picture. Progressive heart failure of this nature is likely to follow the onset of auricular fibrillation, although it may take place with a normal rhythm. The treatment of breathlessness in this large and ill-defined group of patients is that of heart failure in all its grades. With suitable therapeutic measures a recovery of the functional efficiency of the heart which can be maintained for a long period may be expected in some cases; in others, heart failure cannot be arrested, and with a rapidly increasing disability death is not long postponed.

THE DIAGNOSIS OF NEUROTIC CONDITIONS IN GENERAL PRACTICE*

BY

DAVID FORSYTH, M.D., D.Sc., F.R.C.P.

SENIOR PHYSICIAN TO CHARING CROSS HOSPITAL; CONSULTING PHYSICIAN
TO THE EVELINA HOSPITAL FOR CHILDREN; LATE SENIOR PHYSICIAN,
PSYCHOLOGICAL CLINIC, MINISTRY OF PENSIONS

During the last quarter of a century medical psychology has been revolutionized. The neuroses have been made to yield the secret of their origin and nature, and for the first time the kinship has been traced between all the chief types of human personality—normal, eccentric, neurotic, psychotic, sexually perverted, and criminal. But as yet little of this accession to our knowledge has reached the body of medical practitioners, at any rate to the extent to being utilized by them in daily practice. For one thing, this new work has been mainly contributed by psycho-analysis, and Freud's discoveries have been looked at even more askance by the medical profession than by the laity—perhaps for the reason that doctors have received no training in psychology (thanks to the medical curriculum), and both in their student days and later their preoccupation is with organic diseases. They have yet to realize that the importance of Freud's discoveries is no longer disputed among psychologists, and that many of these discoveries are directly applicable to their neurotic patients. Further, now that the acceptance of psycho-analysis is general among the laity, the difficulty has increased of satisfying patients or their relatives by merely pushing the subject aside as an unpleasant one.

* A post-graduate lecture delivered at Charing Cross Hospital Medical School.

Not that a general practitioner has need of any technical training in analysis, but he should be able to recognize a neurotic case as surely as he diagnoses organic diseases, and to overlook a case of either kind is equally serious a technical error. Even after a full medical examination has excluded organic disease, the diagnosis of a neurosis is to be made only on psychological evidence obtained by a full psychological examination. It is not permissible to make this diagnosis negatively, merely for lack of evidence of organic disease. We know how often physical signs are absent in the earlier stages of numerous organic diseases, including cancers, tuberculosis, anaemias, cerebral tumours, and general paralysis. Remember, also, how organic and neurotic diseases may coexist in the same subject; and that many patients with organic disease develop a "halo" of psychogenic symptoms which may easily obscure the organic condition.

I

As a first step towards this psychological diagnosis the practitioner will probably require to revise some ideas which have guided him hitherto. The very term "functional" (which, after all, is more misleading than informative) is best replaced by "psychogenic," that is, mentally produced. Little or no diagnostic value now attaches to the so-called "stigmata" of hysteria, to areas of anaesthesia or hyperaesthesia, or to the state of the tendon reflexes. The methods, clinical and laboratory, of investigating organic disease are inapplicable to cases of neurosis, a totally different examination being needed. In approaching a case of this latter kind forget for the time being that your patient is anatomically composed of different organs—your concern with him is of another sort. Discard equally the supposition of a neurosis of a viscus—a "gastric" neurosis or a "cardiac" neurosis—which implies a distortion and falsification of the facts, inasmuch as psychogenic symptoms referable to a viscus are never more than a detail of a neurosis of which more widespread evidence can be found.

A positive diagnosis requires that two primary conditions must be satisfied. The first is that a *neurosis is essentially a disorder of temperament*; the manifestations of it, therefore, are to be looked for in the patient's emotions and behaviour. It never consists of a single symptom, localized perhaps to one part of the body, and rarely of a few symptoms, but of many, which are to be sought over the whole range of the patient's temperament. With experience one comes to recognize a fairly typical case of neurosis as readily as one does a straightforward case of organic disease.

The second condition to be satisfied before diagnosing a neurosis is that *every neurosis begins in childhood*. The diagnosis, therefore, is not to be made without a psychopathic history leading back to nursery years. As a rule, the earlier in childhood that the psychological development went wrong the graver is the result, so that, for example, disturbances within the first year or two are responsible for setting up psychoses, while those between the third and sixth lead to nothing more serious than a neurosis; and healthy development over the entire first five or six years excludes a neurosis in adult life.

The investigation of a case of neurosis proceeds by allowing the patient to talk freely, and so disclose his disposition and its peculiarities. The very loquaciousness of most neurotics, which to the psychologically untrained can be frankly boring, becomes to the medical psychologist as significant and illuminating as is a detailed physical examination to the clinician. Here a warning must be given. Though neurotics are usually tiresome, difficult, and exacting, a doctor must not be provoked into showing any impatience or annoyance at their failings. He needs

to hold in check his own prejudices, and to go almost all the way in meeting and accepting his patient's point of view. After all, is not his help being sought precisely on account of these temperamental disabilities which his patient possesses? He must put aside any inclination to impose his own ideas on his patient, to criticize him, and still more to blame him, whatever the circumstances. Above all, he must not seek to exercise any authority, moral or otherwise, over him, but to encourage him to decide and to act for himself. This last condition is, of course, the exact contrary to the usual professional relationship, where the doctor expects his opinion to be accepted and his advice followed without question.

To return to the investigation of a case. Neurotics rarely converse with average freedom. Most of them are ready to pour out their troubles at length (their letters about themselves run to pages), but not a few are shy and reticent, speaking of themselves with obvious difficulty. But in both these classes the same excess of pent-up emotion is usually disclosed by their agitation, nervous movements, and perhaps the heightening colour of their cheeks as they talk. Of a third class, much less often met with, who are not only uncommunicative but cold and apathetic throughout the interview, it will suffice to say that this is the reaction of a psychotic, and not of a neurotic. Neurotic patients with somatic (bodily) symptoms are prone to describe their pains in superlative terms—terrible, excruciating, such as no one has ever endured before—and they may be full of dread as to their significance. In this connexion a suggestive contrast in temperaments can often be noted—on the one hand the mental perturbation shown by a neurotic who believes himself to be suffering from, say, a (non-existent) cancer; and on the other hand the impassive gravity with which a non-neurotic patient describes the symptoms which, as he has come to suspect only too surely, are those of an actual cancer. Further, the symptoms in cases of neurosis are often too numerous and widely spread to be accounted for by any organic lesion. The patients themselves are apt to describe a symptom with an "as if"—for example, a headache, "as if a red-hot plate was being pressed on to the top of my head"—an analogy which often offers a clue to the mental significance of the symptom.

As you listen to your neurotic patients you soon have occasion to become aware of their temperamental peculiarities. Almost always they are inveterate worriers, especially about little things at home or at work, about their health or their religion; they are easily irritated and may be unable to control their tempers; and they tell you that their many troubles keep them from sleeping at night. Indeed, *anxiety* (worrying), *irritability*, and *insomnia* compose the commonest trio of neurotic symptoms. Neurotics find difficulty in meeting their everyday social obligations, often on account of strong and unreasonable likes and dislikes, or because of feelings of inferiority or of a quarrelsome assertiveness. For many of them their daily activities are handicapped by morbid fears or by feelings of shame, disgust, or guilt. Their moods are inconstant, their enthusiasms short-lived. Many are preoccupied with their bodily functions, faddists about diet or ceremonialists in the closet. They are often ill-starred in their love affairs, and unhappy in marriage. The sexual side of life repels them, and the sexual act disgusts them. Almost always they suffer from some notable sexual abnormality, such as *ejaculatio praecox*, *impotence*, *frigidity*, or *dyspareunia*. It remains to add that the level of intelligence of most neurotics is high.

As a class they are supersensitive, self-centred, intolerant of interference, and avid of attention and devotion. In these important respects they resemble children. Indeed,

this sums up their outstanding peculiarity—their childishness. Once this is recognized the importance of three general propositions becomes apparent. (1) Every neurotic retains in his adult temperament some traits and tendencies which should have been left behind with childhood. (2) It is precisely this childishness which makes it impossible for him to meet the demands of adult life. (3) The aim of psychological treatment is to free him from these attachments to his immature years, and so to liberate nervous energies which will bring about his mature development at last.

II

This recognition of the opening years of life as the decisive period for the development both of healthy character and of neurotic and psychotic conditions—a view directly conflicting with that hitherto generally accepted that puberty is the critical age—is probably the most momentous change of view enforced by psycho-analytical research. The significance of the first five or six years is due, again contrary to current belief, to the fact that at no other time are emotions so intense, and so deeply and lastingly impressed by environmental influences. The general outline of development during this early period, as well as many of its details, are now known. At birth, and for some while afterwards, an infant possesses neither knowledge nor experience of the outside world, but is preoccupied with its own bodily functions and the powerful emotions with which they are charged. Most commanding among these are the functions of nutrition and of excretion. The alternating sensations of hunger and repletion provide the infant with intense emotional experiences of pain being replaced by pleasure. Defaecation and urination are the other similarly outstanding interests in its daily emotional life, the painful distension of bowel and bladder being followed by pleasurable relief. Of altogether subordinate emotional importance are the sensations derived from elsewhere, such as the skin, and even the eyes and ears. Later, but still in early infancy, a fourth main interest takes shape when discovery is made of the pleasurable qualities of the external genital organ.

To this lowest level of development (0-2 years) when the child's principal desires and pleasures are comprised within its own body, is given the name of *auto-erotism* or, since the infant is exclusively self-centred in its affections, taking itself as the first object-choice of its love, the *narcissistic stage*. Oral, anal, urethral, and genital erotism are the four components ("partial impulses") of auto-erotism, and according as the infant happens to become more or to become less centred on one or the other of these, so are the foundations of its character differently laid. For example, oral erotism, by engaging its interests in feeding, thence in the breast and the mother, and so to objects outside itself, tends to develop an affectionate nature, responsive to external influences (*extroversion*); while anal erotism, which leads the infant to prize its own motions coming from within itself, as a source of pleasure, tends to induce a self-centred, unaffectionate, and difficult temperament (*introversion*). Other partial impulses which are features of the auto-erotic stage are the sadistic impulse and the masochistic impulse. Later, and in conjunction with the infant's narcissistic self-love, develop the impulses to expose its naked body and to look at another's naked body (passive and active exhibitionism).

The second phase, overlapping the first in time, is the *pregenital stage* (2-4 years). The oral, anal, and urethral erogenous zones lose none of their dominance, but genital erotism now plays a more prominent part (masturbation is usual), and the child, though still without any appreciation of the sexual function of the genital organ, is

impelled to press itself against any loved object, so furthering the process of extroversion. In this way it helps to establish the relation wherein the child's affection passes increasingly to one or other parent—heterosexual and “incestuous” if to the parent of the opposite sex, homosexual if otherwise. Out of the heterosexual love of one parent develops jealousy of the other parent, the child entering upon the Oedipus situation which is so fateful in its consequences by determining the pattern of the child's later adult love-life.

The next phase is the *genital stage*. The other auto-erotic impulses now yield predominance to genital erotism, and the psychosexual life of the child approximates to that of the adult. This brings us to about the sixth year. A fourth or *latent period* now sets in, and continues till puberty. Throughout this period erotic impulses are largely in abeyance, and shame, disgust, and morality first take shape. With puberty begins the adult psychosexual life, and this, surprising though the discovery may seem, is essentially a repetition of the psychosexual life of the first six years. When the latter has followed normal happy lines, the adult love-life also will be satisfactory, but any early abnormality will now again show itself.

Healthy psychosexual development implies the smooth transition of the child from one stage to the next, the distinctive interests of each stage being gradually abandoned as the next is reached. Failure to do this means that some emotional urge proper enough to an earlier period is continued into a later, and probably becomes permanent. To this occurrence is given the name of a “fixation,” and it is characteristic of neurotics of whatever age that, confronted by difficulties in life, their behaviour tends to “regress” to the level of the original fixation. Herein lies their childishness.

Now these ideas, so new and on a first hearing so strange, are derived from the analyses of cases of various kinds of neuroses. It would seem that in each type of neurosis the characteristic behaviour is by regression to the same fixation-level; the neuroses, for example, representing regression to a level not earlier than that of object-love (that is, second stage), while in the more serious psychoses the regression is to the first or narcissistic stage. Or, more particularly, anxiety neurosis and hysteria—the mildest and most curable of the neuroses—involve regression only to the third or incestuous (heterosexual) stage; obsessional neurosis derives earlier from the second (anal-sadistic) stage; paranoia—essentially a disorder of homosexuality—from the auto-erotic stage (early anal erotic); manic-depressive insanity also from the first stage; and dementia praecox (schizophrenia)—the profoundest psychosis of all, and the least amenable to treatment—to the opening months of the auto-erotic stage (early oral erotism). Except for the three just mentioned, no other psychosis has an exclusively psychogenic origin, organic causes being responsible for general paralysis, toxic and post-febrile insanities, senile dementia, etc.

If fixation and regression were the only processes to be understood the neuroses would indeed be simple to study, and patients might even be expected to see for themselves the nature of their troubles, and get the better of them. But a third mechanism, “repression,” no less important than the others, complicates the situation for the patient beyond hope of recognition. It comes about in this way. In later childhood and after, any persisting infantile impulse must encounter the barriers of shame and morality; its conscious recognition grows to be intolerable, and it is repressed into the unconscious, the patient affording himself the partial relief of denying its existence; and yet it remains as potent as before, and as insistent on gratification. From then onwards his mental life

becomes more and more abnormal in multiplied efforts to disguise and defend himself against the forbidden wish. Along these lines develops the neurosis, with all its complex features.

III

Before proceeding further it is worth asking, What can be done by way of preventing neurotic trouble? How best can we guide a child through those early critical years of its psychosexual development? By attention to two matters in especial. First, by recognizing the infant for the little animal it is, tending solicitously its animal wants, and permitting it ample time to proceed with its development, without prematurely invoking its disgust, shame, or guilt, or seeking to impose on it conventional adult morality. Second, healthy psychical development can hardly proceed except in an atmosphere of continuous parental harmony and love.

Here, then, are some everyday causes of morbid development—seemingly trivial happenings, and yet in reality, as every analyst can confirm from his own cases, potential disasters, so emotionally impressionable are infants: a violent-tempered mother tends to turn her disappointed suckling from oral erotism to anal erotism and its lifelong disabilities; the same result may follow if rectal suppositories are used too freely, or if the infant's bowels are neglected until it experiences the enhanced thrill of passing constipated motions. To delay with the breast when the infant is raging with hunger, to give it a bottle with the milk too hot or too cold, may, it would really seem, produce grave psychological upsets. The experience of being weaned (against its will) causes the child to feel desolate and forsaken by its mother, and is believed to play a leading part in the genesis of melancholia.

Some later everyday family factors which are known to derange normal development are: a worrying or irritable parent (a mother especially), a drunken or violent father, and marital disharmony (with or without separation or divorce).

IV

It should not be difficult to recognize oncoming neurotic trouble in a child. Always the earliest signs are to be found as changes of temperament and behaviour. To an observant eye, whether of parent or doctor, the onset can often be dated to a particular week, sometimes even to a particular day. In the case of infants of a year or less the beginnings are most often to be seen in a general discontent. The infant becomes restless and fretful, and may develop a show of temper often amounting to violent attacks of rage and screaming, and sometimes culminating in convulsions. Sleeplessness is frequent, or at least disturbed and unrestful sleep. The infant may refuse to take its feeds, or reject them by vomiting soon after swallowing them. Similarly, it may refuse to pass its motion, the best efforts of the mother to this end notwithstanding. Or it may vomit, void motions, or urinate at times calculated to be inconvenient to the mother. Sometimes its attitude towards the mother shows habitual unresponsiveness and indifference, antagonism, or fear. Nervous habits may appear, especially thumb-sucking or picking at parts of its body. Masturbation in excess may be indulged in.

With children beyond infancy any of the peculiarities just mentioned may develop, and many others as well. One of the earliest and most frequent of these is night-terrors, the child waking terrified from an anxiety dream (nightmare). Before long it may begin to show timidity and fearfulness by day, and may become the subject of definite phobias, especially of animals, such as dogs or horses. In instances where fear, strong and persistent, takes hold of the child its intelligence may be numbed and paralysed; cases of this kind are liable to be

erroneously diagnosed as mental deficiency. Disobedience, obstinacy, and perverseness are further evidences of trouble, and may even amount to a general naughtiness and antagonism to the whole world. Bad temper may still be of the violent kind with the child now becoming quarrelsome and even spiteful towards others, or the temper may take the form of sulkiness and moroseness. Special difficulty in learning to speak, delay in speaking amounting exceptionally to several years, or abnormalities such as stammering may be obvious. Left-handedness and clumsiness are occasional peculiarities. Morbid jealousy, especially of some other member of the family, is often manifest, and with this may come an exaggeration of the child's self-assertiveness. Bed-wetting and sleep-walking are common happenings. Often enough neurotic biases reveal themselves at table, and this or that dish provided for the child cannot be eaten. In a few cases the outstanding peculiarity is an increasingly self-centred interest, the child growing less and less responsive to things about it.

Later, again, shyness, with perhaps blushing, may become noticeable, or the child begins to lose its self-confidence and initiative. Morbid worrying is a frequent trait, as is supersensitiveness, especially to unkindnesses, criticisms, and injustices. Still later again, hyper-conscientiousness may be shown in connexion with either home or school. Precise neurotic symptoms may appear, the commonest—apart from the phobias already mentioned—being twitchings of the face, head, or arm; other frequent somatic hysterical symptoms are headache and indigestion. Finally, obsessional symptoms may take shape, the child having to carry out (or having to refrain from carrying out) certain actions (such as keeping its doll lying absolutely straight up and down its toy perambulator). Among other obsessional states which may be seen about this age are the so-called "touching mania," when the child is compelled to touch with its hand most things within its reach, and kleptomania. In this latter the trouble is usually first disclosed in the compulsive stealing of pins, needles, pencils, and other objects of similar shape.

V

Based on the foregoing, the classification of the neuroses is set out in the following table, where the two main divisions are: regression (fixation) neuroses, and actual neuroses. The table deserves attentive study, even though no one could fairly expect a general practitioner to make the diagnosis between these different conditions.

CLASSIFICATION OF NEUROSES

I. Regression (Fixation) Neuroses:

- A. Transference neuroses (emotional energy shifted from object to object).
 1. Hysteria—(regression to third stage).
 - (a) Conversion hysteria.
 - (b) Anxiety hysteria.
 2. Phobias—(regression to third stage).
 3. Obsessional (compulsion) neurosis—(regression to second stage).
- B. Psychoses (narcissistic neuroses)—(regression to first stage).
 1. Paranoia.
 2. Manic-depressive insanity.
 3. Dementia praecox.
- C. Perversions—for example, homosexuality, sadism.

II. Actual Neuroses:

- A. Anxiety neurosis (from sexual frustration).
- B. Neurasthenia (from excessive masturbation).
- C. Hypochondria.

The differential diagnosis of these various forms is properly the concern of the psychological specialist. But even with him it may be difficult and impracticable to

make a diagnosis at a first visit. Repeated interviews during a week or longer are sometimes necessary—a continued and systematic investigation comparable with that which is customarily followed with difficult clinical cases admitted to a hospital or nursing home. Only by this means is it possible in some cases to distinguish, for example, phobias from obsessions, or obsessions from delusions; while an even more extended inquiry may be needed before drawing the line between a transference neurosis and a psychosis, or discriminating one psychosis from another. Similarly, only expert observation will be able to settle points of forensic importance, such as the diagnosis between kleptomania and criminal stealing, or between a hysterical fugue and a post-epileptic confusional state.

By way of explanation of the actual neuroses it may be said that the immediate causes of these are usually referable to the patient's current life. *Anxiety neurosis* is one of the commonest neurotic conditions; it is the neurosis to which the older name of "neurasthenia" is still so often erroneously applied. Its trio of leading symptoms are anxiety, irritability, and insomnia (with anxiety dreams). The etiological factors most often involved are coitus interruptus, dread of pregnancy, frustrated sexual desire (as in engaged couples and widows), and enforced abstinence. *Neurasthenia*, the condition which develops in inveterate masturbators, is characterized by loss of energy, both physical and mental, defective concentration, headache, pains in the back, and ejaculatio praecox, or even complete impotence.* In *hypochondria* anxiety is the prominent symptom, but becomes attached to ideas not of home or of business, but of the patient's bodily functions, with the result that he is preoccupied and worried even about normal processes healthily performed. Hypochondriacal symptoms may also cloak early cases of psychosis, but in these the patient is usually anti-social, with recognizable delusions or hallucinations.

It should not be forgotten that though anxiety is so very prevalent as a neurotic symptom, it is occasionally associated with organic disease. The two organic conditions in which anxiety, indistinguishable from psychogenic anxiety, develops are cardiac decompensation and exophthalmic goitre. With the former the manifestations of heart failure, local and general, should make the diagnosis plain, but with exophthalmic goitre anxiety may be an early symptom preceding both the exophthalmos and the goitre. In these cases the diagnosis can usually be established from the one side by the lack of other psychogenic symptoms and of a psychopathic history, and from the other side by the concurrence of tachycardia, fine tremor, and increased basal metabolism, with consequent loss of weight.

A special type of anxiety case which is by no means uncommon is that in which the patient, though physically sound, fears himself to be the subject of some grave affection—those most dreaded are heart disease, consumption, cancer, "stroke," "paralysis," and insanity—and may even develop some of its symptoms, but never enough to establish an organic diagnosis.

It remains to add a few comments on certain forms of hysteria. The diagnosis of conversion hysteria (that is, hysteria with somatic symptoms) is all the more difficult since there is no bodily symptom organically produced which may not in another case be hysterical. Especially perplexing among the commoner hysterical symptoms are headache, suggestive of cerebral tumour; vomiting, suspicious of gastric cancer or of pregnancy; pain in the back, hinting at tuberculous or malignant spinal disease;

* The word neurasthenia, implying as it does exhaustion of nervous strength, is altogether appropriate to this onanistic condition, and not at all to anxiety neurosis with its characteristic excess of pent-up nervous energy.

abdominal or pelvic pains, inviting an exploratory laparotomy; twitches and paralyses, simulating the motor disturbances of encephalitis or disseminated sclerosis; and the varied hysterical symptoms of the so-called occupational neuroses, which may resemble cases of peripheral neuritis, tabes, or syringomyelia. In all but a few of these difficult cases the diagnosis can be effected on the lines already drawn—by a detailed physical examination and a detailed psychological investigation. In a minority of cases where doubt remains the diagnosis must be postponed until a re-examination from time to time has served to bring fresh evidence to light.

Pseudo-angina is really a form of conversion hysteria, and the distinction between it and angina pectoris should not be a matter of serious difficulty. The points to be relied on are the patient's age (at or after middle life in organic disease), dyspnoea on exertion, modified blood pressure, and sclerosis of the peripheral arteries. In the hysterical form, perhaps the most significant detail is the occurrence of attacks at times when the heart is least subjected to physical strain—during sleep, for example.

Much has been needlessly made of the difficulty of distinguishing an epileptic seizure from a hysterical fit. The distinctive features of epilepsy, including the sudden loss of consciousness at the onset, the comparatively short convulsive stage, and the recovery in a few minutes with mental confusion, headache, and perhaps vomiting, are all unlike a hysterical fit, where consciousness is rarely if ever lost, the movements are always purposive, shouting and muttered talking are usual, and the duration of the fit is altogether longer than that of epilepsy. The supposition of a "hystero-epileptic" attack is little in accord with modern psychological knowledge, and usually means nothing better than an equivocal diagnosis.

THE USE OF VITAMIN B IN CASES OF OEDEMA

BY

D. W. CARMALT-JONES, D.M., F.R.C.P.

PROFESSOR OF SYSTEMATIC MEDICINE, UNIVERSITY OF OTAGO,
DUNEDIN

In 1918 Professor Wenckebach¹ of Vienna delivered the St. Cyres Lecture in London, in which he described "the beri-beri heart." In beri-beri right heart failure often occurs, in which there is grave oedema, resisting cardiac drugs but disappearing at once on the administration of vitamin B. Profound oedema is always of serious significance in heart failure with congestion in cases of rheumatic origin. Every hospital physician is familiar with rheumatic heart cases which are constantly in and out of hospital, the intervals between the attacks progressively diminishing until the patients are admitted with extensive oedema; this admission is generally the last. There are occasional exceptions, but extensive oedema is often of the gravest prognosis in congestive heart failure.

In the light of Wenckebach's paper, I thought it would be wise to try the effect of vitamin B in such cases, to see if by this means any principle could be supplied, the absence of which was causing the fatal result. I used it first in two or three moribund cases, in which its effect, if any, was quite insufficient to postpone death. A few less grave cardiac cases showed some improvement, and afforded encouragement to proceed, but death was not prevented. In the oedema of pernicious anaemia, however, two striking results were obtained, and in some oedemas of other origin the results were satisfactory. The cases are briefly described below. The preparations of vitamin B used were "marmite" and "tiki-tiki," the nature of which is discussed at the end of the paper.

CASE I

A female, aged 22, weighing 19 st. 9 lb. Rheumatic fever one year earlier. Influenza with heart failure six weeks before admission. Admitted with dyspnoea, cyanosis, albuminuria, and extensive oedema. Treated for three weeks with digitalis, diuretin, and starvation; lost about 20 lb., but otherwise no change; pulse rate varied from 120 to 140 per minute. All drugs were stopped and marmite was given. For a fortnight there was improvement; the pulse rate fell to 110/120, and the oedema was reduced, but there was no noticeable diuresis. The fluid was probably lost by the bowel. Heart failure recurred, and the patient died in another fortnight. Post-mortem examination showed mitral stenosis and myocardial degeneration.

CASE II

A female, aged 60, under the care of my colleague Dr. Frank Fitchett; an old heart case with ten years' history. Admitted with heart failure, vomiting, and oedema, which was remarkably soft, involving the legs to the knees and arms to the elbows—an unusual distribution in a cardiac case; urine 15 oz. per diem. After two weeks' ordinary treatment she was given tiki-tiki, one drachm twice daily. Next day 42 oz. of urine was passed, the vomiting ceased, and in a week the oedema disappeared in the arms, and was much reduced in the legs. The pulse rate dropped from 110 to 100. The tiki-tiki had to be stopped on account of diarrhoea; shortly afterwards the patient relapsed and died. At post-mortem gross myocardial change was found.

CASE III

A female, aged 56, with chronic myocarditis and thyroid disease. Admitted on January 22nd, 1930, with heart failure, dyspnoea, palpitation, haemoptysis, dyspepsia, cough, asthenia, and wasting; cyanosed more than oedematous. Auricular fibrillation; liver to umbilicus; jaundice; small hard goitre. On January 26th the oedema began and persisted, though the pulse rate fell, and there was otherwise general improvement with the usual cardiac treatment. On April 24th (three months later) all drugs were stopped, and marmite was given. On May 16th she was much better, the urine increased to 30 oz. daily, the oedema was much reduced, and she was able to leave her bed. Unfortunately the thyroid condition was over-emphasized; basal metabolism was investigated, by which she was much upset; she relapsed, and died a month later. Post-mortem: chronic myocarditis; chronic venous congestion of organs; thyroid—colloid nodules, fibrosis, calcification, and degeneration.

In these three cases the vitamin acted as an efficient diuretic or stimulant to the alimentary tract; its chief physiological action is said to be on the latter. The patients were all beyond hope of recovery, but temporary benefit was obtained which might have tided over less grave cases.

CASE IV

A female, aged 45, with secondary anaemia and oedema. Admitted on September 29th, 1930, after severe gastric haemorrhage; red cells 2.5 millions per c.mm. On October 5th she was transfused with 20 oz. of blood. Slight deep oedema present in arms and legs; pulse rate 100 per minute. On October 10th tiki-tiki (half a drachm twice daily) was given. On the following day 60 oz. of urine (not previously recorded) was passed. On October 15th oedema was gone, and the pulse rate was 80 per minute.

CASE V

A female, aged 52. Hemiplegia with unilateral oedema. Admitted unconscious, with severe right hemiplegia. There was slight oedema of the paralysed limbs, which became very marked in the arm, and remained so for two months; there was no recovery of power in the arm. The oedema decreased considerably with tiki-tiki; details are lacking.

In these two cases, also, there was a satisfactory reduction of the oedema: one had the impression that the vitamin was an efficient diuretic drug, but no dramatic result was obtained.