

vividly mimic those of organic heart disease, and that the functional nervous and the organic may each be pure, or commingle in varying proportions, to their mutual detriment. As diagnosticians we can all sympathise sincerely with the prophet Jeremiah when he says, "The heart is deceitful above all things, and desperately wicked: who shall know it?" As answer to Jeremiah, I should say, he shall know it best who takes the trouble to study it both organically and psychologically.

## POST-GRADUATE CLINICAL DEMONSTRATION

AT THE

HAMPSTEAD GENERAL HOSPITAL.

BY

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FIRST of all I wish to discuss two patients who come once a month to remain under observation. They are both subjects of a cardiac lesion, and exhibit some features of therapeutic interest.

### TWO CASES OF MITRAL STENOSIS.

The first case is a woman of 46 who has the facies we associate familiarly with mitral stenosis, a diagnosis which examination at once confirms. She has a palpable presystolic thrill at the apex, and the presystolic murmur with sharp first sound is unmistakable. The heart-rate is perfectly regular and only 68 to the minute; in fact she would be a most welcome subject to the candidate at an examination on account of the ease with which the murmur can be timed. An inquiry will be answered to the effect that she is absolutely free from symptoms of any kind, and that she has remained perfectly well for some years.

A glance at her *past history* will show the feature to which I wish particularly to refer. She was admitted to my ward in 1922 in a state of extreme decompensation—dyspnoea, cyanosis, bronchitis, oedema of the legs, and auricular fibrillation. She had been admitted to the ward on two or three previous occasions when a predecessor was in charge. With rest and the administration of digitalis she recovered in three weeks and was discharged, only to return within a month in the same condition of cardiac distress. Further treatment on the same lines enabled her to leave hospital, relieved, only to be followed by another breakdown; and within six months there were four occasions of admission to the hospital with brief intermissions of relief—a state of affairs which had been going on for some 18 months or two years. A lucky inspiration to alter the treatment in this patient has made all the difference in the world to her. Instead of the routine digitalis I put her on to pil. hydrarg. et digitalis co., which contains, with 1 gr. digitalis,

a grain of squill and of mercurial pill. It is modified to a certain extent in different hospital pharmacopoeias. I believe the original was "Baillie's Pill," and certainly Guy's men recognise it as the "Guy's diuretic pill." But, whatever the modifications, the essential ingredients are present.

For over four years this patient has taken two pills daily, and so far from breaking down every few weeks she has not even manifested a symptom of any kind. She sees me every four weeks, and during this long observation I have tried if a reduction to one pill daily was adequate; but with one pill irregularity becomes evident, from which I conclude that two pills represent the optimum dose. Although it must be remembered that squills possesses a digitalis effect in itself, I expect the real reason why this patient has done so well is that the digitalis action is enhanced by the mercury, which is of course a very old observation. I have little doubt that the administration of digitalis in adequate doses accompanied by mercury would be as beneficial as this pill, and would prove the part played by the mercury. But when a patient is doing so well one's scientific enterprises are rather inhibited by the prudent desire to leave well alone. At any rate, this case reminds you of the advantage of combining mercury with digitalis in an obstinate case, or of changing to the pill containing squills.

The other out-patient (Case 2) is also one of mitral stenosis. Although she is 17 years old she looks about six years younger, and this is not an unusual condition when a cardiac lesion is acquired early in life. I cannot say how early it was in this case, but in all probability the rheumatic infection originally responsible was acquired at the age of perhaps 6 or 7, and she has attended a children's hospital both as an in-patient and an out-patient for many years, until the age limit compelled a transference to a general hospital. She, too, was admitted in a state of decompensation which was rapidly relieved by rest and digitalis. The drug was cautiously reduced while she was still an in-patient, and after it was ascertained that she remained well on a certain minimum she was discharged with instruction still to take that minimum. This is one granule of Nativelle's digitalin, gr. 1/240, corresponding, as is usually said, to 15 minims of the fresh tincture, but it is a fairly general experience that one such granule has a more vigorous effect than 15 minims. I think the therapeutic interest is that patients once thoroughly under the influence of digitalis retain its effect when a comparatively small dose is regularly given, a dose which would be quite inactive if administered at the onset of treatment.

A further point of interest here is the condition of the tonsils. These are very large and obviously septic, and I do not doubt that they were originally responsible for her infection. I have urged operation, but the parents are unwilling. Enucleation of the tonsils will of course have no influence on the valvular lesion, which will probably progress, but

I suppose we should all be agreed that septic tonsils ought to be removed in all cases, and that there must in this particular instance be additional reasons in that the risk of infective endocarditis may be reduced, not to mention the occasional occurrence of rheumatic re-infections. Nevertheless, despite this obvious disadvantage, it is clear that the patient remains comfortable and well on her daily dose of digitalis.

#### CARDIAC LESION.

The third case is that of a very anæmic young girl of 14. Here, contrary to the relationship of a cardiac lesion with development, it would appear that she looks a good deal older than her years. But in this instance her cardiac lesion is, I think, a recent acute one, and she has not suffered the protracted disadvantage of the other girl. She has, I take it, an acute rheumatic endocarditis, and when she was admitted to the ward there was acute synovitis of several joints, which was alleviated by sodium salicylate in large doses. This girl has variable cardiac murmurs which sometimes I think are mitral in origin, sometimes aortic, and possibly both; and she has on both elbows, a wrist, two fingers, one ankle, and one toe the nodules which we associate with a severe cardiac lesion and which are not particularly often evident. The cardiac rate, though regular, is very frequent, 110 or more, which condones to some extent an inability to be quite sure of the character of the murmurs. One thinks of the possibility of a bacterial endocarditis in such a case, especially when response to salicylate is not altogether complete. The blood culture was negative, which, however, is not proof that a septicæmic condition is absent. I hinted that the response to salicylates was not complete, which made one ask for a blood culture. There are other reasons for partial and total failure to respond. Pericarditis in such cases is sometimes overlooked and so are septic foci. This child's tonsils were enucleated two years ago, but she had some septic teeth which have now been extracted.

#### ΕΜΠΥΕΜΑ.—HÆMATEMESIS.

Our next patient (Case 4) gives, what is to me exceptional, a history of an empyema twice on the same side. She was admitted here a week ago with the history of a month's illness and an obvious empyema was treated by resection of a rib, since when she has done very well. She states that she had a similar operation abroad five years ago and undoubtedly a rib had been resected rather higher up than is the usual practice in this country. She also incurred a rare and considerable misfortune in that at the time of her first operation it became necessary to amputate her right leg at what is called the site of election. I presume a septic embolus was responsible, as the condition appeared to have been related directly to the pulmonary illness. I have seen a very considerable number of empyemata chiefly on account of the exceptional opportunity in the war, and I do not remember a patient who has had repeated resection on the same side.

The next patient has been admitted for hæmatemesis, and I would suggest that such cases often afford the greatest diagnostic difficulty even when all the advantages of skilled assistance are available. She is a woman of 62, pallid, obviously anæmic, though not very ill, and she was sent in with a history of epigastric pain and hæmatemesis inviting the obvious diagnosis of a gastric ulcer: and, having regard to her age and previous well-being, some suspicion that the ulcer was malignant would be justified. The blood was examined shortly after admission and found to be anæmic to the extent of 58 per cent. hæmoglobin without other changes in the number or character of the cells than are usually present in secondary anæmia. She was treated with Lénhartz's diet, and experiencing no gastric discomfort of any kind, eventually reached full diet when investigation became feasible.

Examination showed the presence of occult blood in the stools on two occasions with eventually a negative result. The test-meal showed a high degree of free hydrochloric acid, excluding the probability of a neoplasm and suggesting the test-meal picture of a duodenal rather than a gastric ulcer. When radiography was performed the report obtained was complete absence of any evidence of organic lesion of stomach or duodenum. It is a platitude that nothing is absolute in medicine, but appreciation of one's colleagues impels me to say that the accuracy of their interpretations is such that only a very bold clinician is prepared to diagnose an ulcer when the radiographical evidence is completely negative. In the face of this unexpected result revision of the previous history became desirable, and a more careful inquiry showed that any dyspeptic symptoms had been exceedingly inconspicuous and that the hæmatemesis, though probable, was of a very trivial character. But in further investigation the blood pressure, which had been taken as a routine, was recalled and found to be unexpectedly raised to as much as 215 mm. Is it not likely that we have been deceived in this case and have jumped to conclusions through accepting the obvious: and, in view of the negative radiogram, does it not seem likely that the anæmia which, by the way, has in no way improved during the four weeks she has been under observation was not the result of the gastric hæmorrhage, but had pre-existed for some time? And having regard to the blood pressure, may not the alternative diagnosis of arterio-sclerosis be substituted?

#### SPLENOMEDULLARY LEUKÆMIA.

The next patient (Case 6) has just been re-admitted for one of her periodical treatments by X radiations for splenomedullary leukæmia. She was admitted to this ward two years ago without any suspicion of such a condition, the complaint being nausea and loss of weight. She appeared what I described as a little anæmic, but when on routine examination a spleen so enlarged as to reach the umbilicus was discovered, a full blood count was performed with the following result: hæmoglobin

50 per cent. ; colour-index, 0·8 ; leucocytes, 507,000, of which 31·6 per cent. were myelocytes. X radiations reduced the spleen very rapidly and considerably, and the leucocytes gradually until in two months the count was 55,000. Since then she has been treated at intervals with X radiations alternating with benzol,  $\text{M x}$ , in olive oil. The hæmoglobin 12 months ago was 90 per cent., the latest estimation showed 68 per cent. with 260,400 leucocytes per c.mm. Her general health remains good despite the high leucocytosis, and one can only say, as in all these cases of leukæmia, that prognosis is impossible. I have seen a case recover apparently completely after treatment by X rays with a complete reduction in the size of the spleen and a normal leucocyte count only to be followed by a relapse with a rapidly fatal result despite all subsequent forms of treatment. I believe splenectomy has been attempted in some cases, but I do not think that any definite advantage has ever been described, and in general the operation seems to accelerate the termination.

#### INFECTIVE ENDOCARDITIS.

This man of 56, who looks anæmic and œdematous, was sent in two months ago on account of a purpuric rash on the arms and vague joint pains. There was a history of a similar rash six months previously, also of vague illness and of a still vaguer hæmoptysis. He was clearly anæmic when admitted and his hæmoglobin estimation was found to be only 62 per cent. He had a large heart with a diastolic murmur along the left border of the sternum with a typical Corrigan's pulse at the left wrist. I say advisedly the left wrist, because, through an anatomical peculiarity, no pulse is palpable at the right wrist. In addition to the preceding, the spleen was enlarged to two fingers-breadth below the costal margin, and irregular pyrexia was present. I think the diagnosis of infective endocarditis cannot be refuted, although as a matter of fact the blood culture twice has been negative. He has steadily deteriorated, he has become more anæmic with ascites—the spleen can no longer be felt, presumably on account of this—and œdema of the legs. But I think a considerable contribution to his condition is owing to an accompanying nephritis, as is evident not only from the albumin and casts constantly present in the urine, but from the high blood-urea—186 mg. per cent. I think the twitchings which you see are a uræmic manifestation. Somebody has objected that you may not diagnose infective endocarditis when the blood culture is negative, but with this I cannot agree, as I have already stated. The blood culture appears to be a very variable factor, and much seems to depend upon selecting the most favourable moment of taking the blood. In this instance how could the combination of pyrexia, aortic regurgitation, an enlarged spleen, anæmia, and purpura be otherwise explained ? \*

\* This patient died a few days later. At the autopsy, cauliflower vegetations were found on the aortic valve. The spleen was double the normal size and exhibited three old white infarcts. The kidneys were large, congested, but in apparently good condition except for white infarcts.

#### GASTRIC SYMPTOMS.

In introducing the patient with gastric symptoms I deplored the difficulty of diagnosis even with all assistance available. Here is another case in point. Case 8 is a man of 48, a labourer, who was admitted a fortnight ago looking very ill, with a history of abdominal pain after food and vomiting during the last three weeks, and of complete loss of appetite with previously a clear gastric history—a text-book description of carcinoma of the stomach. Merely rest in bed restored his appetite, which has since become voracious, and in one week he gained seven pounds in weight. The test-meal shows a low acidity, but not the absence of free hydrochloric acid ; there has been no occult blood in the stools, the radiogram shows a shallow ulcer of the lesser curvature and some pyloric deformity. What are we to infer from this ? There is unquestionably an organic lesion of the stomach, but does the fact of improvement in appetite and the considerable increase in weight disprove carcinoma ? I think one would unhesitatingly answer no ; everybody sees these misleading cases of temporary improvement, and for a time, at any rate, judgment must be suspended. I said there was nothing absolute in medicine, and certainly there is no sign or symptom related to carcinoma of the stomach which may not deceive one. Hurst says that in every case of carcinoma of the stomach occult blood is continuously present in the stools. If this were an absolute accompaniment it would be a very valuable diagnostic point ; in this man's case, for example, we have never found occult blood. But I cannot agree with Hurst, for I have on more than one occasion followed throughout its course to its termination, with subsequent opportunity to confirm the diagnosis beyond doubt, a case of carcinoma of the stomach in which occult blood was never identified in the stools.

#### RUPTURE OF ANEURYSM.

I have left to the end this patient (Case 9), a comparatively rare and interesting condition. He is a man of 52, a caretaker, who was sent in as a case of meningitis—a very reasonable diagnosis in the circumstances. He was able to give a satisfactory account of his illness, which began with headache and vomiting, to be followed two days later by dimness of vision. On admission his temperature was 101°, there was very slight left facial paresis, and the tongue was protruded slightly to the left, the optic discs were invisible, apparently from extensive hæmorrhage into the vitreous. The reflexes were with difficulty elicited, but the absence of the abdominal reflexes on the left side, and an extensor response pointed to pressure on the pyramidal tract. Kernig's sign was positive. On lumbar puncture the cerebro-spinal fluid was found to be intimately mixed with blood and to be sterile. The Wassermann reaction in the blood was negative. This condition of subarachnoid hæmorrhage with intra-ocular hæmorrhage is due to rupture of a congenital aneurysm of the circle of Willis. Dr.

George Riddoch has, with an ophthalmic colleague, described fully four similar cases, and he has very kindly seen this patient and given us the benefit of his opinion and advice. In all his cases the Wassermann reaction was negative; the rupture is dependent upon some effort, but this may be of so trivial a character that it is inconspicuous, and furthermore, an accurate history is generally not available. In Dr. Riddoch's opinion the extravasation into the vaginal sheath of the optic nerve compresses or kinks the central vein of the retina as it passes through to the ophthalmic vein. According to the degree of compression and possibly, too, to the condition of the veins, the intra-ocular hæmorrhage may be very trivial and inconspicuous, or as in this case extensive. Provided no further hæmorrhages occur the prognosis is good as regards the meningeal changes, and even the vitreous hæmorrhage may be largely absorbed. The treatment is

limited to absolute rest, and lumbar puncture is avoided unless there is evidence of pressure on the bulb.

At first this patient's condition deteriorated. He became delirious and incontinent. He was again lumbar-punctured, when a quantity of yellow fluid was withdrawn. Improvement ensued, and has since been maintained. A period of pyrexia followed for four days after the spinal puncture. This is presumably due to the production of a little fresh hæmorrhage and subsequent absorption. It is clear, therefore, that, as I have noted, lumbar puncture must now be avoided unless there is a definite indication. The slight signs of pyramidal tract irritation are still present, but Kernig's sign is now absent, and his mental state is apparently normal. To-day he says he has the impression of being able to see a little "through a slit in the curtain." This may well be the beginning of absorption of the blood in the vitreous.

## EDITORIAL NOTES

### POST-GRADUATE WORK IN THE DOMINIONS.

Two letters have lately appeared in our columns dealing with branches of post-graduate work as it affects Canada and New Zealand. They touch on different aspects of the work, but both are of the greatest interest to the Fellowship.

The Canadian letter describes the plan adopted by the Canadian Medical Association to introduce post-graduate teaching into the more remote parts of the great Dominion, by sending teams of lecturers and demonstrators from the different medical schools throughout the country. During 1926 513 lectures were given, besides clinics, and these lectures were attended by 17,264 doctors. It will be remembered that the Fellowship recently embarked on a similar scheme, and all districts in England which have no close relations with a medical school have been circularised, and invited to apply to the Fellowship for lecturers and demonstrators. The result has been encouraging, and our first lecturer is shortly going to a country district in answer to a request from the profession in the area. The Canadian scheme is worked in connexion with the local societies; our scheme will work also with local medical societies and with the local hospitals at which out-patient and ward clinics can be held, as well as the lectures and demonstrations given. The Canadian scheme was financed in 1926 by a generous grant of \$30,000 a year by the Sun Life Assurance Co., of Canada, who realise, apparently, that a medical profession which keeps up to date is a real asset to a life assurance company, and so convinced are they by the result of the first year's working, that they have repeated their grant this year. No grant of this nature has reached the Fellowship from our own insurance companies, but the Fellowship is

determined to meet all the expense of the scheme, so that no liability may rest on the district which invites the Fellowship to coöperate with them.

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The New Zealand letter comes from Sir DONALD MCGAVIN, a leader of the profession in the Dominion and an old friend of the Fellowship of Medicine. It tells us plainly the needs of New Zealand post-graduates, and points out that in some respects these needs are not adequately catered for in London. We are well aware that many improvements are possible in post-graduate teaching in London, and one of the obvious difficulties which make comparison between London and Berlin or Vienna impossible, is that, although our material is unrivalled, it is not grouped in a few institutions, but widespread throughout the hospitals of London. This is a constant grievance, as much time is inevitably lost in travelling, and it cannot be got over until the post-graduate hospitals come into being. It also leads to a want of concentration of cases. For instance, Sir DONALD speaks of classes for œsophagoscopy. It is probably impossible, as things are in London, to collect under one roof a sufficient number of cases of diseases requiring œsophagoscopy to form material for a course of lecture-demonstrations. Nor is it our custom to demonstrate on what he calls "complacent material." We must depend more upon the clinical assistant method, whereby a post-graduate can attach himself to one or more hospitals, and throw himself into the routine work of the hospital. This is made more easy in some hospitals which have formed two classes of clinical assistants, the senior class, who have some experience and can be of some assistance to the specialist in charge of the clinic, and the junior class, who attend the clinic and receive instruction from the specialist. The Fellowship can help post-graduates to obtain clinical assistantships, but resident posts, such as house physician or