POSSIBLE PITFALLS IN LIFE ASSURANCE EXAMINATION, AND REMARKS ON MALINGERING.*

BY

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In thanking the society for electing me its President, I feel that it must be a difficult task for me to occupy worthily a post which has been in turn held by my father, by one of my distinguished masters at St. Bartholomew's Hospital, and by several others whom I admire and honour.

EXAMPLES OF DISEASE WHICH MAY ESCAPE DETECTION AT LIFE ASSURANCE EXAMINATIONS.

Arterial Hyperpiesis, with or without Granular Kidneys.—It is certainly quite easy at a single examination to overlook a case of hypertension if one does not employ the sphygmomanometer, even when the brachial systolic blood pressure is as high as 190 or 200 mm. Hg. Here we have the grave risk of premature death from such causes as cerebral haemorrhage, etc. In many cases the urine may be found on repeated testings to be free from albumin, and tube casts may be absent, or only one or two hyaline casts may be discovered by the help of the centrifugal machine, as they may be sometimes in the urine of healthy persons. Ophthalmoscopic examination may likewise show nothing abnormal in this class of cases. The heart may not appear enlarged by ordinary examination, notably in fat or fleshy subjects; moreover, a moderate amount of pulmonary emphysema may mask hypertrophy of the left ventricle.

Disease of the Myocardium or Coronary Arteries of the Heart in Syphilitic Subjects.—In early cases, without knowing the subjective symptoms, one may easily overlook disease of this nature at a life assurance examination. Moreover, a history of past syphilis may not be forthcoming. The Wassermann reaction is not likely to be taken. A first attack of angina pectoris may be fatal. Other grave symptoms of myocardial disease may suddenly develop in young or middle-aged individuals. Sometimes considerable areas of the cardiac wall undergo degenerative changes owing to obstruction in their supply of arterial blood, and then death is likely to occur rather suddenly before a true cardiac aneurysm has developed.

Malignant tumours in the thorax or abdomen may easily be overlooked in an early stage of their development, especially at a single examination. Symptoms regarded as connected with ordinary dyspepsia may signify commencing cancer of the stomach. In some cases the persistent absence of free hydrochloric acid in the contents of the stomach after a test breakfast might have furnished valuable evidence as to the nature of the case, though it must be admitted that free hydrochloric acid is probably more often absent in non-malignant conditions than is ordinarily supposed. It is not surprising that an operation for a malignant tumour in the abdominal viscera may occasionally be heard of in bona fide cases not long after acceptance for life assurance, even when there was no suggestion of a tumour being present at the time of the life assurance examination.

Disease of the suprarenal glands, notably primary malignant disease (malignant hypernephroma), may escape recognition at first. Tuberculous disease, with caseous degeneration, in one or both glands, is often not recognized, even if there are asthenic symptoms, before the characteristic cutaneous pigmentation of Addison's disease has developed. The following case bears on the question of the difficulty in the diagnosis of "latent Addison's disease," with asthenic symptoms and delayed recovery from infections, before the typical cutaneous pigmentation has developed.

In December, 1899, I saw a man, aged 24, suffering from a pyrexial attack, which was regarded as influenza. The illness was accompanied by some pleurisy at the left base, and was followed by remarkable debility. Several medical consultations were held, and gradually he apparently recovered. In 1901, when shooting in India, he was attacked by malaria, probably not a particularly severe attack, and was sent up to the hill station of Darjeeling. There his condition was one of great

asthenia without fever, and he had syncopal attacks, in one of which he died. Some pigmentation was observed in India, though none had been noted during the illness in England. A most careful *post-mortem* examination was made, and in a report sent over to a life assurance office in England it was stated that the suprarenal glands contained yellow caseous material and calcareous plates, and were matted together across the aorta. It seems to me that suprarenal disease (latent Addison's disease) was probably the true explanation of the asthenic condition connected with convalescence from the previous illness in England, and was perhaps also present when his life was heavily assured at ordinary rates by a great English life assurance company before the illness in question. More than one English company was affected by his early death.

Cirrhosis of the liver is sometimes very hard to detect, especially in fat or apparently well-nourished persons, with thick abdominal walls which make palpation of the liver or spleen difficult. In such cases the disease, though it may have had an ordinary alcoholic origin, may be not only quiescent, but also actually latent. When the abdominal walls are thin or flabby, the hardened liver generally seems enlarged to palpation, even when it is in reality more or less atrophic. Evidently the position of the liver is changed in such cases, for the lower margin can usually be felt projecting below the costal margin. Slight enlargement of the spleen can often likewise be made out, and this, together with an occasional subicteric tinge of the conjunctivae, and perhaps (when present) relatively dark-coloured urine, and excess of urobilin in the urine, may facilitate the diagnosis.

Splenic Enlargement.—Every medical examiner knows the difficulty in regard to slight chronic enlargement of the spleen, when the enlargement is not certainly the result of malaria. I suppose no candidate for life assurance with great enlargement of the spleen would be accepted, whatever the nature of the enlargement might be. I may draw attention here to a certain rare class of cases of splenomegaly. A young woman, or a young man, suddenly complains of considerable pain in the upper part of the abdomen, possibly accompanied by temporary fever and a little ascites. The ascites soon disappears, but the spleen is found to be enlarged, and there is probably slight anaemia. Soon the pain passes off, the patient feels well, and there may be no anaemia, but more or less enlargement of the spleen persists. In some cases there may be a little early haematemesis. Later on the patient may seem and feel as well as any healthy person, in spite of the persistence of the splenomegaly. After a year or two the blood count will probably show nothing abnormal excepting moderate leucopenia. For the clinical aspect of the case at this stage I have suggested the term "anaemia splenica sine anaemia." Sooner or later, however, grave haematemesis is likely to occur, and the case will then probably be diagnosed as one of splenic anaemia or Banti's disease. But in this class of case, as *post-mortem* examination shows, the real cause of the splenic enlargement, haematemesis, etc., is a kind of pylophlebitis adhesiva, with resulting obstruction in the splenic and portal veins.† The obstruction to the return of blood from the spleen may become compensated, and the disease may remain quiescent for a long period, but fresh attacks of thrombosis in the portal vein are apt to occur, ultimately leading to complete obstruction. There may or may not be a history of traumatism at the commencement of the disease, and the etiology of the thrombo-phlebitis in these cases has not been satisfactorily explained.

Pulmonary Tuberculosis.—I need scarcely mention the well-known danger at single life assurance examinations of failing to recognize the presence of early pulmonary tuberculosis, especially when, for one reason or another, the medical examination is somewhat hasty or incomplete. Early cases are by no means always the most favourable cases of pulmonary tuberculosis. Apart from the general nutrition and build (and possibly the family history) there are no data at first to help one to form an opinion as to how the disease is likely to progress or how efficient ordinary hygienic and therapeutic measures are likely to prove to be. On the other hand, in old cases, and after the disease has been under observation for a considerable time, the resistance of the patient has been more or less estimated. When a person is not overwhelmed by the disease, even when it has considerably progressed, the power of gradually acquired resistance and compensation

* Presidential address before the Assurance Medical Society, January 9th, 1918.

† For one of many typical examples of this kind of case see F. Parkes Weber, *Proc. Roy. Soc. Med., Clinical Section*, 1916, vol. ix, pp. 1-6 (including the discussion which followed the paper).

may prove to be tremendous. A man may be slowly "chased through life" by the disease and yet live to a fair, or even old, age. The disease, although very advanced and after extensive cavernous formation has taken place, may ultimately become quite quiescent or obsolete, and death may occur from other causes.

In September, 1909, I saw a gentleman (W. M. M.) with extensive cavernous signs over the upper part of the left lung, back and front. He was 67 years old, but looked rather younger. Cavity formation had occurred, according to the history, in the upper part of the left lung after an attack of measles at the age of 16 years. At 38 years of age he is said to have had a bad "cold" so that "the hole in his left lung got disturbed," and the pulmonary tuberculosis became active again. Since that time he had been much abroad, in Egypt, Malta, the West Indies, and Madeira, but especially in the Canary Islands. For some time he had had a house near Las Palmas in Grand Canary. A tragical complication for the patient was the death of his wife (to whose devoted attention he owed so much) by suicide, a few months before I saw him, in 1909. He died at Pau in January, 1913, aged 70.

Diabetes Mellitus.—When diabetics are passed in life assurance examinations the most probable reason is neglect or mistake in urine examination, but it must not be forgotten that by means of the modern fasting treatment the urine can often be rendered temporarily free from sugar in the case of young patients (often apparently well nourished), precisely those who are almost certain to die early from diabetic coma. Such cases would, I believe, often be passed, if fraudulently sent up for life assurance examination after a preparatory course of fasting treatment. In 1909, before the general introduction of the treatment of diabetes mellitus by Allen's fasting method ("alimentary rest"), the urine in a grave case under my care was temporarily freed from sugar in the following way:¹

The patient was a young woman, aged 23 years, an in-patient at the hospital. The sugar in the urine was reduced by dieting to about 70 grams for the twenty-four hours. On September 10th, 1909, the diet was temporarily limited to 200 to 300 grams of olive oil in the day, with as much water as was wished, and a codein-phosphate pill (which the patient had been taking three times a day) was continued. As a result of this "disguised starvation" method sugar completely disappeared from the urine on September 12th. On September 13th I ordered a return to the special diet which she had previously been having for her diabetes, and on the next day the urine was found to contain 4.5 per cent. of sugar. During the days of exclusive olive oil diet the patient did not feel hungry or as if she was being starved. Once or twice the oil, she stated, made her feel a little sick, but she looked well and had her usual, somewhat florid, complexion. She lost only about 4 lb. in body-weight. She was not emaciated, and, on the whole, gained weight whilst she was in the hospital.

This case was certainly one of grave diabetes mellitus, and afterwards died, as I heard, from diabetic coma, but surely a life assurance examiner, had he examined her when the sugar disappeared, might have been deceived.

Syphilis and So-called Parasyphilis of the Nervous System.—Nervous syphilis is supposed by some to have become relatively more frequent since the introduction of the methods of treatment by salvarsan and neo-salvarsan. The blood serum and cerebro-spinal fluid are naturally very seldom (if ever) tested, regarding the Wassermann reaction, for purposes of life assurance, and it is quite possible that persons actually suffering from headache, etc., connected with commencing nervous syphilis, may occasionally be accepted for life assurance. Future statistics of the great life assurance companies as to the causes of death in early claims will doubtless throw some light on these questions. Similarly, persons with commencing tabes dorsalis or general paralysis must sometimes be unwittingly accepted for life assurance—especially if no history of previous syphilis is forthcoming. I doubt whether as yet Argyll Robertson pupils are sufficiently examined for and the knee-jerks tested as a routine part of life assurance examinations. But occasionally at (several) repeated examinations knee-jerks cannot be elicited in neurasthenic, and even apparently quite healthy, individuals. One must acknowledge that tabetic symptoms, such as tabetic pains, tabetic paraesthesiae, gastric crises, and tabetic urinary troubles, are frequently supposed to be due to other causes. It may be noted, however, that patients with tabes dorsalis often live a long time, and in some cases the life assurance companies would not be losers if tabetics were accepted by mistake. Tabetics in whom optic nerve atrophy occurs early seem often to have

a relatively mild form of the disease in other respects—so much so that, I believe, in France, about Charcot's time, a kind of "arrested tabes dorsalis with blindness" was spoken of—that is to say, a class of tabetics was recognized whose symptoms (that is, the progress of their disease) were arrested by (or, rather, after) the development of optic nerve atrophy.

MALINGERING.

Knowledge in regard to the simulation of symptoms and diseases is of extreme importance for workmen's and accident assurance. The combination of simulated with genuine signs or symptoms is often especially difficult to detect. Functional nervous diseases and simulation of organic diseases are not rarely associated with each other. The artificial skin affections which I have seen have been chiefly in young women with abnormal psychical states. Unfortunately in these cases, as in other cases of artificially produced disease, though the artificiality of the disease may often be recognized, the exact means whereby the condition is produced frequently escapes detection.

Most of us recently have had to pay attention to the question of various forms of simulation in men. Amongst prisoners of war simulation of disease for purposes of repatriation tends of course to be regarded as fair play, and as rather creditable than discreditable, if it is successful. In such persons, however, as in accident insurance cases and "traumatic neurasthenia," there may be a real functional nervous element combined with the simulation of disease. In some cases a functional nervous disease may constitute the chief trouble, not combined with actual simulation, but fostered by a desire not to recover until liberty is regained, just as ordinary traumatic neurasthenia may be kept up and fostered by a desire to obtain monetary compensation, etc.

An intelligent and highly skilled business man, aged 36 years, had right hemiparesis and what seemed to be a kind of myoclonus (paramyoclonus) multiplex. He could not speak, except in a whisper, and could not walk. He was allowed by the military authorities to return to his native land, and I afterwards heard that not long after his return sudden recovery of speech and power of walking followed the shock of a fall from a tram-car.

This reminds me of some remarks in a recent paper by E. Farquhar Buzzard,² in the course of which the author stated that he mistrusted the complete genuineness of many of the reported sudden recoveries from functional nervous disorders (including functional loss of speech, etc.) following—that is, as result of—shocks. He suspected that the patients began to be tired of their loss of speech, etc., and began to be sure that their trouble was no longer really necessary; he thought that they then gladly accepted some "shock" or other exciting circumstance as a kind of "excuse" to recover suddenly. I wish some beneficial "shock" had occurred in an aggravated case of "chorea rhythmia" (functional) which was under my care for a long time.³

The patient was a man, aged 38 years, of Hebrew origin. When he was being examined by a doctor, the rhythmic movements of the neck and arms used to become increased in rate and amplitude and force. They quieted down somewhat when he was left to himself, and ceased altogether during sleep. They became more violent when any one tried to restrain them by force in any way. He said he could not walk, but he was able to move his lower extremities when he was sitting or lying down. He gave one to understand that he could speak only in a very slow and jerky manner, as if battling against some obstruction in articulation. On the other hand, he could eat, drink, and dress himself fairly well, when left alone, without any assistance. He was at first not losing weight, but afterwards he lost slightly. He was apparently free from any visceral disease. His knee-jerks were exaggerated; no ankle clonus could be obtained; his plantar reflexes were difficult to obtain, but, when obtained at all, they were of the flexor type. Obviously psychical factors played an important part in the case. The patient was removed to another hospital and I lost sight of him, but perhaps he has been allowed to regain his liberty, and in that case rapid improvement may have taken place.

In some cases I believe it is very difficult to distinguish between what one might call bona fide functional paresis (with limping on one lower extremity) and actual simulation, and equally difficult is it to distinguish between genuine painful remnants of sciatica and simulation.

A remarkable case of simulated amblyopia was complicated by a temporary attack of genuine optic neuritis. An intelligent man, aged about 45 years, with special

knowledge of chemistry, was repeatedly examined by two ophthalmic experts, and there can be no doubt whatever that typical optic neuritis was actually present for a time; it could not have been simulated. He, however, apparently managed, for purposes of simulation, to have his pupils generally under the influence of atropine, but occasionally, when examined unexpectedly, his pupils were found to react to light. On an occasion, later on, when he met one of the eye doctors unexpectedly, he committed the involuntary mistake of addressing the doctor, before the latter had spoken or given the patient any opportunity of recognizing him, except by sight. As to the possible causes of the attack of true optic neuritis in this case it may be remarked that the patient's blood serum gave a positive Wassermann reaction, that he complained of (possibly genuine) headaches, that he was given anti-syphilitic treatment, and that the Wassermann reaction afterwards became negative. One day the specific gravity of this patient's urine was found to be 1057, which I think was probably due to some common table salt having been emptied into it. It is quite possible that the patient had noticed that on ordinary urinometers used in England the portion of the scale above 1030 is marked "diabetes" on the reverse side. Owing to this curious statement, perpetuated on nearly all these instruments, as used by doctors and in hospitals, the idea may suddenly have occurred to him that by artificially raising the specific gravity of his urine he might simulate an important symptom of diabetes mellitus. If so, he probably gave up the idea when he found that, owing to the absence of sugar from his urine, the disease in question could at once be excluded.

REFERENCES.

¹ Cf. F. Parkes Weber, *Diabetes Mellitus and Life Assurance Examinations*, BRITISH MEDICAL JOURNAL, 1913, vol. i, p. 73. ² E. F. Buzzard, *Lancet*, 1916, vol. ii, p. 1097. ³ F. Parkes Weber, *Proceedings of the Royal Society of Medicine (Clinical Section)*, 1916-17, vol. x, p. 6.

TWO YEARS' EXPERIENCE OF SEPTIC WOUNDS IN A V.A.D. HOSPITAL.

BY

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WHILST it is true that many of the cases seen at a V.A.D. hospital are obviously selected as suitable for removal from the parent hospital, and that a certain number are already well on the way to convalescence, some at least are sufficiently serious to demand considerable care and constant attention. The great majority of the wounds are septic, and some of them have been treated at the military hospital with indifferent success, and are sent to the auxiliary hospital in the hope that an improvement in the environment may make for recovery. Many of the wounds are very foul, especially those of the limbs, and are suppurating freely. A certain number have been operated upon for the removal of bullets, fragments of shell, and pieces of necrosed bone. Sometimes recent cases are sent, and men have been admitted to Duncombe Park within a few days of being wounded and still dazed from the shock of battle. Our most intractable cases have been those in which the lower limb was involved, with sepsis arising from an infection of bone. Wounds in or about a joint are also, as a rule, serious.

From the outset our aim has been to treat wounds conservatively, with as little operative interference as possible, taking the view that the hospital partakes largely of the nature of a convalescent home. The patients are given a generous diet, and kept in the open air as much as possible. The hospital stands in most beautiful surroundings in a wide, open park overlooking the Yorkshire moors, and sheltered from the north and east. Suitable recreations and amusements, both outdoor and indoor, are provided, and a continuous atmosphere of cheerfulness is considered an integral part of the treatment.

Where there is obviously a foreign body in a wound, whether it be part of a projectile or a sequestrum of bone, the irritant is removed and drainage established at the earliest moment. One of the first operations was for a piece of shell at the bottom of a discharging sinus in a soldier who had been treated for tetanus in France. The

precaution was taken to give an injection of antitetanic serum, a procedure which since then has been widely recommended. Sometimes it has been necessary to reopen a wound to a considerable extent, or even to reamputate, where the flaps were too meagre to cover a bad stump. Exposure to direct sunlight, in almost all cases, has been followed by good results, and bad cases have done best when removed from the wards and housed in shelters in the grounds. Our experience leads us to place reliance upon outdoor treatment with the minimum of dressings. Cases which at first appear almost hopeless begin to show healthy granulations in a very short time, and the patients soon become able to move about without assistance. A trained masseuse has done excellent work in the after-treatment of wounds where there is stiffness or contractions; when healing is delayed and there is no foreign body in the wound, massage is a means of speeding up the healing process.

With regard to antiseptics, at first there was comparatively little to choose between the antiseptics available. A solution of carbolic acid, lysol, or mercury binioidide, or a light dressing saturated with hypertonic salt solution, was employed with success in the milder superficial wounds. Wet dressings were discarded as far as possible, and the source of the suppuration searched for and removed. Deep-seated wounds, especially those of the lower limb, with infection of bone, and a foul sinus leading down to the damaged tissues, gave greater trouble, and it was soon discovered that the "physiological" method advocated by Sir Almroth Wright often failed to produce healthy granulations. Any endeavour to open up the wound, with a view to removing the infective irritant, usually necrosed bone or a piece of shell or casing of bullet, was apt to cause a septic invasion of the subjacent healthy tissue, and extensive osteomyelitis developed on at least one occasion. The ideal procedure of cleansing the wound thoroughly at one sitting, and afterwards applying dry dressing, was found impracticable and had to be abandoned. Where there was great sloughing of the parts the damaged tissue that could be reached without much cutting was removed, a stream of warm hydrogen peroxide introduced into every part of the wound and suitable drainage established. Where the suppuration was very profuse and there was swelling and redness of the parts, hot boric fomentations frequently applied gave good results, and where there was a compound fracture also, the continuous antiseptic bath was found to be the best treatment. Extensive frostbite and bad cases of trench foot also did well when treated in the bath. Foul sinuses of long standing, with thick ropy pus, were treated, according to the teaching of Lister, with pure carbolic acid, then irrigated with hydrogen peroxide in a gentle stream, and lightly covered with gauze and exposed to sunlight. An endeavour was always made to explore thoroughly all pockets in the wound; one of these overlooked was often the cause of delayed healing. Ensol and the Dakin-Danfresne solution have been more lately employed and are useful, as is also the introduction of the bipp paste of Rutherford Morison, the advantage of the latter being the lessened frequency of disturbance of the wound. For a time the mixture of ichthyol and glycerin was used with fair success. Each of these methods has its advantages as well as its disadvantages. We have not yet had the opportunity of testing flavine¹ and brilliant green. Meantime, our experience points to the superlative importance of sufficient drainage; given that, the antiseptic employed is of secondary importance. With faulty drainage, or a septic body deeply lodged in any part of a wound, the most ideal antiseptic will fail to produce healthy granulations and a sound cicatrix. Hence it is that different surgeons produce favourable results with widely varying substances which have been demonstrated to be anything but good antiseptics.

The following case goes to prove that drainage is the most important element in the treatment of a foul wound:

Sgt. B., admitted to Duncombe Park Hospital on June 14th, 1916, suffering from a deep suppurating wound of the right groin. He had been under treatment for nearly five months. The wound was opened up freely and swabbed out with pure carbolic acid and then daily irrigated with a warm solution of hydrogen peroxide. A long drainage tube was inserted reaching to the bottom of the wound. A pocket at right angles to the sinus was subsequently discovered and freely cleaned out and a packing of iodoform gauze inserted. The patient was removed to a shelter in the grounds and the