

sugar, he bites it very cautiously, evidently afraid of it breaking, which, if it does suddenly, he either starts or falls down.

"Galvanism applied to the head produces no attack, nor does the sudden application of heat or cold. Any sudden noise has no effect. When his head is touched during sleep, his whole body starts violently, and in about a minute or less his face becomes paler, which appears to me to be very much the same phenomenon as is produced when he is awake, only he is in the recumbent position, and is not able to fall. He drags his right leg very slightly on walking, and on going upstairs he always puts the left one up first. The digestive system is in good order; tongue moist and clean; urine normal; heart and lungs quite healthy; pulse 100; temperature 98.4°. Dr. Argyll Robertson kindly examined the eyes for me with the ophthalmoscope, and found them quite healthy. During the last six months he has improved very much, the attacks are neither so numerous nor so long. At present they rarely last above a minute.

"It is extremely difficult to know whether there is at the time of fall a momentary loss of consciousness or not. If attacks have been induced when he is sitting, I have noticed his head falls forward for a second, and then immediately recovers itself, during which time he may have been unconscious, or the falling forward of his head may have been entirely due to the loss of voluntary power."

Dr. Dunsmure brought the case before the Edinburgh Medico-Chirurgical Society a few years later. He has obligingly given me by letter particulars of the boy's progress since 1874. Before giving these further details I will remark on the resemblances of my patient's case to that Dr. Dunsmure had previously recorded.

In both cases the patients did not fall when touched on the head if they were aware that they were to be touched. In both cases attacks were producible during sleep. In both attacks were produced by accidental contacts during play, &c. In both there were one-sided symptoms, right in Dr. Dunsmure's patient, left in my patient. In my patient during the attacks, or soon after at least, the eyes turned to the right (evidence, I think, considering that the left limbs were affected, that the attacks were ponto-bulbar, "lowest level," fits) and there was stoppage of respiration for a few seconds. It was not certain that in either case there was loss of consciousness in the seizure. I thought there was in my patient's attacks and Dr. Dunsmure thinks there may have been in his patient's attacks.

I now give the further particulars with which Dr. Dunsmure has supplied me, as to his patient's progress in and subsequently to 1874. It will be seen that the patient had epileptic fits as well as the slighter seizures which for distinction are called "falls."

"During the summer of 1874 the 'falls' were incessant owing to his having been taken out in the hot weather, but they diminished when he was kept in the house. He had to be confined to bed the next summer for a short time, owing to the heat and the frequency of the falls. On March 5th, 1876, he had a nocturnal epileptic fit, and another in a month. After the fits began the 'falls' diminished till August, when the weather was hot, they were so frequent he had again to be confined to bed. He had only one fit to Sept. 11th. From then to Oct. 12th, 1876, he had only one fall and four fits of shorter duration; his right side was paralysed for a short time after each of them, the arm hanging by the side. He had a good many fits and no falls till January, 1877, when he had a bad fit in the morning and six falls in the first fortnight of that month. He had several fits to March, in which he would awake screaming out that he is falling and the mother fancied that, by giving him a slap on the back if she was in time, it stopped the fit. He was put on large doses, twenty-five grains, of bromide three times daily and he had only one fit for many months. In February, 1878, his mother drew my attention to the fact that when his attention was directed to something else and on his then getting a sharp blow on the back his right arm lost power for a minute or two. I saw this; the power returned in about two minutes. On the 31st I saw him again, and his mother stated that on the 20th, when going down the stair, a girl struck him on the back a severe blow with a stick. He ran back to the house and took a fit which lasted five minutes.

"In January, 1880, he had a fit which lasted ten minutes, the right side of the body was paralysed for a quarter of an hour afterwards. For a year or so afterwards fits were brought on by blows on the back. When he had bromide in large doses regularly he was always much better and was

often for months without fits. I do not think there is anything more to say in the case, for after the regular development of epilepsy I did not see much of the case after I made my last communication to the Society till his death.

"The patient died of peritonitis, 1892. The brain was examined by Dr. Bruce, Pathologist to the Royal Infirmary.

"There was no change or disease in the pons or medulla or in any part of the brain, except the cortex. The grey matter was somewhat sodden in appearance and many of the cells were vacuolated."

## A SUCCESSFUL CASE OF PARACENTESIS PERICARDII.<sup>1</sup>

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A MAN aged thirty-four years, married, came to the out-patient department of the Brompton Hospital on June 6th, 1894, and was admitted by my colleague, Dr. Habershon, under my care, on account of severe dyspnoea. On admission there was extreme dyspnoea, both respiratory and expiratory. The face was pale, ashy, and bedewed with a cold clammy sweat. The expression was anxious. A superficial and rapid examination revealed the presence of a pulse of high tension, and hypertrophy and dilatation of the left ventricle. There was oedema of the bases of the lungs, without signs of general bronchitis, and a small pleural effusion on the right side. The urine contained a small quantity of albumen. The case was regarded as one of granular kidney with asthma probably of uræmic origin. A hypodermic injection of a quarter of a grain of morphia was at once given, and in about twenty minutes the dyspnoea had almost disappeared and the patient expressed himself as feeling fairly comfortable. He was then ordered to take liquor trinitrini, one minim, every four hours. Under this treatment he continued to improve. Occasional asthmatic attacks were successfully treated by inhalations of amyl nitrite. As soon as his condition permitted the following note was taken. "Family history unimportant. Previous history: Painter's colic in 1884, and an attack of hæmoptysis in 1889. Ailing three years with cough and occasional hæmoptysis. Present illness began at Christmas, 1893, with hæmoptysis, followed by recurring attacks of paroxysmal dyspnoea. The patient is pale and is still somewhat dyspnoeic. Maintains a sitting or semi-recumbent position day and night. Pulse 98, of medium size, regular tension much increased, artery hard. Heart apex beat at lower border of sixth rib half an inch external to the nipple line. Impulse forcible and diffused. Dulness begins at the fourth rib on the left side and extends outwards to the position of the apex beat. To the right the cardiac dulness merges in the pleural dulness to be subsequently described. Cardiac rhythm cantering, the first of the three sounds heard corresponding with the carotid pulse. Aortic second sound much accentuated. Lungs: On the right side in front dulness from the fourth rib downwards and behind from the angle of the scapula to the base. Over the dull area breath sounds weak and vocal fremitus diminished. At both posterior bases scanty subcrepitant râles. Breath sounds over left lung and upper part of right vesicular and loud. No rhonchi. Urine pale, acid; sp. gr., 1010; albumen, one-tenth; no casts. Ophthalmoscopic examination: Numerous small glistening white patches in the retina on each side external to the discs in the neighbourhood of the macula. Marked whitish thickening of the coats of the retinal vessels."

For the next fortnight there was little change. Asthmatic attacks were relieved by amyl nitrite as a rule, but occasionally a hypodermic injection of morphia had to be administered.—July 22nd: Dyspnoea has been increasing the last few days. The legs are now somewhat swollen and the signs of pleural effusion on the right side have increased. Paracentesis of the right pleura was performed, and sixty-three ounces of rose-coloured fluid were removed. Great relief was obtained, the dyspnoea diminished, and the oedema of the legs almost disappeared.—July 12th: Paracentesis had to be performed again as further effusion into the right pleura had occurred. On this occasion

<sup>1</sup> A paper read before the Medical Society of London on Jan. 28th, 1895.

forty ounces were withdrawn, the fluid showing the same sanguineous character as before. Again great relief was experienced, and for the first time the cantering action of the heart was replaced by the normal rhythm, the first sound being short, the second sound accentuated generally. After about a week the old symptoms returned, and on July 26th the patient complained of severe pain in the left side and was much distressed. A double pericardial friction sound was now heard over the whole præcordia, loudest over the right ventricle. Six leeches were applied to the cardiac region and speedy relief was obtained. A saline mixture containing ten minims of the tincture of digitalis and of the tincture of nux vomica, with three minims of liquor trinitrini, was now ordered to be given every four hours. Temporary relief to the dyspnoea was experienced, but the patient vomited occasionally—a symptom attributed to the digitalis. On Aug. 6th the patient had a sudden attack of dyspnoea and cardiac failure. He became pale and faint and his pulse was found to be very irregular and weak. After the administration of a hypodermic injection of ether and of brandy internally he rallied, but complained much of pain in the præcordial region and epigastrium. At bedtime an injection of one-eighth of a grain of morphia was given and the patient slept for a few hours. The next day the following note was made. "Dyspnoea marked. Respiration 32, shallow. Lungs: On the right side dulness reaches in front up to the third rib, and behind nearly to the spine of the scapula. Over the dull area weak breath sounds and diminished vocal fremitus. At the left posterior base slight dulness as high as the angle of the scapula, weak breath sounds, and some creaking. Heart: Oedema of the skin in the cardiac region, extending outwards nearly as far as the nipple on each side. Tenderness on pressure in this situation. Heart's impulse impalpable except at the apex, where it is fairly distinct. Apex beat in the same position as before—i.e., in the sixth intercostal space half an inch external to the nipple line. Cardiac dulness begins at the third rib on the left side, extending outwards and downwards as far as the apex beat. To the right the dulness is continuous with that already described in the examination of the lungs. Heart sounds very feeble; at the apex a cantering rhythm can be recognised; no pericardial friction. Liver much enlarged. Slight ascites. Urine: sp. gr. 1010; contains a trace of albumen. The excretion of urine had fallen during the last three days to twenty-seven ounces." The mixture containing digitalis was now discontinued and ten minims of tincture of strophanthus were ordered every four hours. It being now evident that the patient had pericardial effusion, instructions were given to perform paracentesis pericardii if his condition should become worse. The same evening the patient became very restless, the respiration was more laboured, and the pulse weaker. Accordingly at 9.30 P.M. paracentesis pericardii was performed by the house physician, Mr. R. M. Smyth, in the absence of the resident medical officer. A small quantity of cocaine was injected under the skin in the cardiac region, and shortly afterwards a trocar and cannula connected with an aspirating syringe were inserted through a small skin incision in the fourth left intercostal space, as close as possible to the edge of the sternum. The trocar hitched on the edge of the sternum, and after some little difficulty was carefully pushed through the intercostal space until it was felt to be in a cavity. The trocar was then withdrawn and the cannula was now felt to be lifted with each beat of the heart. A quantity of blood-stained serum was syphoned over through the exit tube of the syringe into a porringer. The cannula was gently moved about and the piston drawn out so as to obtain suction. Then fluid of a deeper red colour was obtained, but the cannula soon became blocked, so it was withdrawn and the wound covered with lint soaked in collodion. The patient was relieved at once, the pulse became stronger, and the apex beat of the heart came half an inch lower down than before. Five ounces of fluid were removed. On standing a layer of blood was deposited, the supernatant fluid presenting a clear claret colour.—Aug. 8th: The patient had a good night; he is less restless and in less pain. Respiration 30. The oedema of the chest wall has diminished. Pulse 120, stronger and regular. During the day the pulse-rate varied from 120 to 60, but in the evening it resumed its old rate, 120. The amount of urine passed in the twenty-four hours following the tapping rose to fifty-five ounces.—Aug. 9th: Fair night. Pulse 120, irregular. Cardiac dulness reaches up to the third rib. Rhythm cantering. Respiration 32. Urine, sp. gr.

1010. Albumen one-tenth.—Aug. 10th: The patient seems weaker. Pulse 80, very irregular. Strophanthus had to be discontinued on account of the vomiting it seemed to excite. A hypodermic injection of one-fortieth of a grain of strychnine was given in the morning. At 3.30 P.M. I saw the patient. He was then very dyspnoic and distressed. The respiration was 30. The pulse was 90, tension being lower than formerly. Intermissions, mostly coinciding with inspiration, occurred every sixth or seventh beat. The physical signs were unchanged. It was determined to resort to paracentesis again, the operation being performed by the resident medical officer, Dr. Stanley Ballance. The patient was placed slightly on the left side in a semi-recumbent position. After freezing the skin with ice and salt a small incision was made in the fifth intercostal space on the left side two inches from the sternum, and the trocar and cannula were then inserted. After slight aspiration had been employed the fluid was allowed to syphon over into a glass vessel, twenty-eight ounces being collected. The fluid had almost the colour of pure blood, and on standing some coagulation occurred. The specific gravity of the fluid was 1020. During the operation the patient was given a small quantity of brandy-and-water to sip frequently. After the fluid was withdrawn he expressed himself as feeling much easier. His colour improved, the pulse became stronger and less irregular, and the dyspnoea was obviously relieved. The area of cardiac dulness was not perceptibly diminished. On Aug. 11th the patient slept well in the recumbent position, which he had not been able to assume before. The oedema of the chest wall was less. The pulse was 88, stronger, but still irregular. The heart sounds were distinct at the apex, but fainter at the base; impulse was stronger. The quantity of urine excreted during the twenty-four hours following the operation rose to ninety-seven ounces. For the next month the improvement was maintained, though attacks of dyspnoea recurred from time to time. On Aug. 17th the cantering rhythm of the heart returned, the second of the three sounds now coinciding with the carotid pulse. The pulse became regular and regained its high tension. The ophthalmoscopic appearances underwent no further change. The physical signs in the chest remained the same. After the second tapping the patient was given a mixture containing iron and nux vomica. From the second week of September, when I went for my holidays, my colleague, Dr. Habershon, kindly took charge of the case. On Sept. 15th the patient's condition changed for the worse. The pulse became weaker, the dyspnoea increased, and the quantity of urine had fallen in two days from eighty-eight ounces to forty-eight ounces. The urine now contained one-fourth albumen, the sp. gr. remaining at 1010. As the area of cardiac dulness was thought to have increased slightly it was decided to tap the pericardium again. Paracentesis was performed in the fifth intercostal space on the left side just internal to the situation of the second puncture. No fluid could be obtained. From this time the patient gradually failed, the tension of the pulse fell, the restlessness and respiratory distress became greater, and the quantity of urine steadily declined. Frequent injections of morphia were required to relieve the distressing dyspnoea, but the patient sank and died quietly on Sept. 22nd, six weeks after the second tapping, consciousness being preserved to the last.

*Necropsy.*—There were recent pleuritic adhesions on both sides; the left pleura was adherent to the pericardium. The pericardial sac was entirely obliterated by adhesions, firm at the base but very soft towards the apex and lower part of the right ventricle. The pericardium was studded with numerous small hæmorrhages, old and recent. The heart (weight with pericardium twenty-three ounces) was greatly enlarged, the left ventricle being mainly affected, and its walls measuring nearly one inch in thickness. The muscle was rather soft. The cavity was moderately dilated. The valves were normal. The lungs were oedematous. There was slight marginal emphysema. There was no trace of tubercle. The larynx was oedematous. The kidneys (weight seven ounces and a half) were much contracted. The capsules were slightly thickened but stripped easily, leaving a granular surface. There were a few small cysts and some yellowish patches in the cortex, which was greatly thinned.

*Remarks.*—I have ventured to describe this case as a successful one for the reason that marked and immediate relief was obtained from paracentesis, and the improvement was maintained for fully four weeks, the patient's death being the inevitable result of advanced renal disease. Post-mortem examination showed that the pericardial cavity had been closed by adhesions. The case was, it will be admitted,

a very severe one—granular kidney with uræmic asthma, cardiac dilatation, retinitis, and sanguineous effusion into the pleura and pericardium. The fact that paracentesis pericardii gave unmistakable relief in so desperate a case is the best testimony to the efficacy of this mode of treatment. All who saw the case—and they were many—were convinced that but for the tapping the patient could not have lived many days. The first tapping, performed in the fourth left intercostal space close to the sternum, though it gave temporary relief only yielded five ounces of fluid. Accordingly on the next occasion the puncture was made in the fifth space two inches from the sternum. Dieulafoy recommends that the trocar be introduced at no great distance from the sternum, so as to avoid opening the pleura, but there was thought to be little danger of this occurrence in the present case as there were good reasons for believing that the pleura and pericardium were adherent. The greater success of the second paracentesis is largely to be attributed to the semi-erect position of the patient at the operation facilitating the displacement forward of the exudation, which, as so often happens, had gravitated to the posterior part of the pericardial sac behind the heart. The hæmorrhagic character of the fluid withdrawn from the pericardium as well as from the pleura is noteworthy, as pointing to the severity of the renal affection. The quantity of fluid removed on the second occasion, twenty-eight ounces, is rather large as compared with the average of cases recorded, though a much larger quantity has been removed in individual cases. It is, however, well to remember that the removal of a much smaller amount—e.g., four or five ounces—has been productive of excellent results in several cases that have been reported. The good effects of the tapping were manifested by the circulation, respiration, and secretion of urine. The rapid relief of the dyspnoea shows that this symptom was largely due to the mechanical difficulties under which the heart was labouring. Not less remarkable is the rise in the amount of urine that occurred. Thus, in the twenty-four hours preceding the first operation the quantity was twenty-seven ounces; during the next twenty-four hours fifty-five ounces were passed. After the second operation, on Aug. 10th, ninety-seven ounces were measured, and ten days later the quantity had risen to 137 ounces. No digitalis, strophanthus, or other diuretics were given after Aug. 9th, so that the diuresis can only be attributed to the improvement in the circulation brought about by paracentesis. The oedema of the skin in the præcordial region began to diminish as soon as the pericardial pressure was relieved, but it was some days before it had completely disappeared. The diagnosis of the pericardial effusion presented no difficulty. Although the pulsus paradoxus was not present in its typical form it was noted on the day of the second tapping that the intermissions of the pulse mostly coincided with inspiration. This condition could no longer be observed after the fluid had been removed, and it did not return. The repeated hæmoptysis that occurred early in the history of the case is worthy of note in connexion with the hæmorrhagic character of the effusions into the serous cavities, and with the fact that the necropsy revealed no disease of the lungs with the exception of slight marginal emphysema. I have met with several cases of pulmonary hæmorrhage in middle-aged and elderly people who were free from any sign of cardiac or pulmonary disease beyond slight emphysema, but in whom the existence of granular kidney in a latent form was highly probable. Referring to these cases in the discussion that took place at the Medical Society of London a few years ago on the late Sir Andrew Clark's paper on the Non-tuberculous and Non-cardiac Hæmoptysis of Elderly Persons, I ventured to attribute the hæmorrhage to a rise of pressure in the pulmonary circulation secondary to the high tension in the aortic system. When, as is usually the case in such circumstances, some degree of emphysema and general arterial degeneration coexist we must recognise the presence of conditions favourable to the production of pulmonary hæmorrhage. I still regard this explanation as simpler and more probable than Sir Andrew Clark's assumption of a specific lesion of the pulmonary arterioles and capillaries dependent on "the arthritic diathesis." In a valuable paper by Dr. Samuel West on a case of Purulent Pericarditis treated by Paracentesis and by Free Incision, with Recovery,<sup>2</sup> statistics of paracentesis pericardii

are included, and many interesting points are brought out. Since this paper was published other cases have been recorded; but as Dr. West's conclusions still seem to comprise all the essential points I will now quote them in conclusion: (1) Paracentesis pericardii is not only justifiable, but an operation which may be safely undertaken with ordinary precautions; (2) the most suitable place for puncture is, in ordinary cases, in the fifth left intercostal space one inch from the edge of the sternum; but if the pleura be adherent the puncture may be made safely much further out, and even in the sixth space; (3) the instrument employed should be a trocar and cannula, with or without aspiration; and (4) the operation may be performed with advantage, not only in the pericardial effusions of rheumatic or primary origin, but also in those which occur in the later stages of general dropsy, if it should appear that the fluid in the pericardium is adding to the difficulties under which the heart is placed.

## THE DIFFICULTIES OF PROGNOSIS IN INSANITY.<sup>1</sup>

BY HENRY SUTHERLAND, M.D. OXON.

EVERY practitioner of medicine is aware how difficult it often is to give a prognosis in ordinary cases of bodily disease. There is no point in our professional career which is so likely to endanger the opinion the public may have formed of our skill in diagnosis and treatment. It can, therefore, be easily understood that in all cases of mental disease this difficulty becomes much augmented, for the reasons that the patient will not assist us by describing his subjective symptoms, and will frequently complain that he is suffering from various bodily complaints of which there are no signs whatever. In forming an opinion about any given case of bodily disease we are usually asked: "Will the patient recover?" "How long will he be ill?" "Will the patient die?" "If so, how long has he to live?" And, of course, such questions as these refer just as much to the somatic troubles which may accompany mental disease; but in the prognosis of insanity we have to answer in addition the following style of questions: "Will the patient recover *mental* health?" "If so, how soon?" "Will he die of the *mental* disease?" "If he recovers, will he have another attack?" "If he remains permanently insane, will his life be a long or a short one?" The classifications which have been made of mental diseases do not throw much light on the subject of prognosis. Greissinger divides them under two heads—curable with functional disorder of the brain and incurable with organic disease. Maudsley drops an excellent practical hint in his subdivisions into emotional and intellectual insanity, emotional insanity being a condition in which horrible crimes are committed, while at the same time the public are unable to detect any abnormality in the intellectual faculties. But to my mind the rule of thumb employed at St. Luke's Hospital is by far the best foundation upon which we can rely for a really useful division of the subject. At this hospital curable cases are alone admitted. The medical officer is instructed to ask the friends who are applying for the admission of a patient: "What is his age? What is the duration of the attack? Is it the first attack or not?" and, lastly, "What is the form of mental disorder from which the patient is suffering?" One of the most important points in regard to prognosis is undoubtedly the age of the patient. Thurnam tells us in his statistics that "the probability of recovery is greatest in the young, and undergoes a regular diminution as age advances." Most writers look upon an attack occurring after the age of fifty as hopeless. Bearing this point in mind I gave a guarded but unfavourable prognosis in the case of a Member of Parliament aged fifty years who consulted me some years ago. His grandmother had committed suicide and his father had died insane. The patient had what he called "une idée fixe," a sort of modified delusion, with other well-marked mental symptoms. I certainly believed his case to be incurable. I prescribed rest, and I attended to his liver, which was much enlarged. Three months later he had completely recovered, and was able to make a long speech in the House of Commons. I must confess I was completely

<sup>2</sup> Transactions of the Royal Medical and Chirurgical Society, vol. xlvii, 1223.

<sup>1</sup> A paper read before the West London Medico-Chirurgical Society.