ON SOME MENTAL FACTORS IN THE CAUSATION OF DEATH UNDER CHLOROFORM.

BY ROBERT BALLARD, M.R.C.S. ENG., L.R.C.P. LOND.

THE chloroform controversy has not yet ceased to interest the profession as a whole, and at this stage it may not be inopportune to draw attention to certain clinical aspects of the question which, in the purely academical phase which the discussion has now assumed, are in danger of being overlooked or forgotten. The published conclusions of the Hyderabad Commission have given the much needed stimulus to a closer investigation of the facts connected with the mechanism of death under chloroform. The storm of criticism which those conclusions evoked has resulted in the valuable physiological inquiries of Dr. Leonard Hill and others, and the interest which has been aroused by their investigations into what may be called the hydrostatics of the circulation is apt to divert attention from the significance of the fact that all laboratory experiments are necessarily conducted upon animals and to cause us to forget for a time the personal equation which enters so largely into all questions connected with the human organism.

In 1894 I recorded in the pages of *THE LANCET*¹ a case of cardiac syncope under chloroform—happily ending in recovery—in which the predisposing cause of the accident was undoubtedly the terror and mental anxiety of a nervous lad subjected for the first time to an experience the dangers of which were to him the more alarming because unknown. The horror with which some persons regard the idea of an anæsthetic is to many people incomprehensible, but it is none the less real, and I am convinced that the importance to the administrator of ascertaining the mental attitude with which the patient approaches the operation cannot be overestimated. In some cases operative measures are decided upon and the patient's consent obtained three or four days before the operation is finally performed, and during the intervening sleepless nights and long weary hours of waiting in bed the ever-present idea of operation looms larger and larger in the patient's mind. With sickening reiteration he dwells again and again upon what he may imagine to be the details of the operation and endures in anticipation a mental agony out of all proportion to the actual facts. Is it rash to assert that such a patient will be brought to the table with nervous and circulatory systems heavily handicapped for the strain which will be put upon them?

The following case which occurred in my own practice well illustrates the grave condition which may be produced by fear and anxiety. A woman, aged twenty-three years, single, had suffered from frequently recurring attacks of appendicitis of considerable severity and it was decided during a period of quiescence to perform laparotomy for the removal of the diseased appendix. The patient was a pale, nervous woman, much reduced in health by her former attacks, and with a marked neurotic family history on the mother's side. I first saw her the morning before the operation. She was then evidently anxious, but evinced, as far as I could judge, no signs of great mental distress. The pulse was 98, dropping ten minutes later to 89. The heart was normal in every respect and the sounds, though hurried, were clear. On asking her to sit up I fancied I could detect a faint hæmic murmur at the pulmonary base. An examination of the chest gave negative results. When I left the pulse was 84, having dropped 14 in less than half an hour. I did not see her again until the following day when she was brought into the next room for operation. Her condition was then typical. The heightened colour, hurried irregular respiration, compressed lips and fluttering eyelids spoke of the fear and suppressed excitement from which she was suffering. The pulse was 104, and the heaving impulse of the heart could not only be felt but seen. The superficial veins of the neck were slightly engorged, and on careful scrutiny showed a faint but distinct pulsation. Indeed, her condition was so serious and the engorgement of the right side of the heart so obvious that I was in doubt as to whether it was justifiable to operate at all. At the last moment I decided to give gas and ether, in spite of a slight bronchial catarrh from which the patient had been suffering. The

sight of the Clover's inhaler added the last straw to her terror, and when on the table she begged that the operation might proceed without an anæsthetic. When fully under the influence of nitrous oxide the signs of engorgement disappeared, the pulse-rate fell, and she eventually took the ether well and made a good recovery.

The chief element of danger in these cases is the profound disturbance of the circulation which commences in many cases some days previously and persists until the patient is well under the influence of an anæsthetic. In the worst cases there are signs of serious embarrassment of the right side of the heart and in two cases I have observed an undoubted temporary tricuspid regurgitation—physiological, no doubt, but none the less dangerous. It may be urged that inasmuch as this condition passes away as consciousness is lost its gravity has been exaggerated; but it is when the patient is still conscious and is struggling and holding his breath that the greatest stress is laid upon the heart and the occurrence of sudden syncope is most to be feared. Every anæsthetist knows that children bear chloroform, on the whole, better than adults and that the victims of sudden accidents necessitating operation are not so liable to syncope as the serious shock they have sustained would lead one to expect. Children, in fact, are in much the same position as Surgeon-Lieutenant-Colonel Lawrie's dogs: they are spared the depressing effects of anticipation and their fear does not begin until they are actually on the table and is then of short duration; and the victims of severe accidents are so overcome by the suddenness of the shock and by the maiming or mutilation which may result that the administration of an anæsthetic is looked upon as a detail of minor importance and an operation of some kind regarded as a matter of course. National character, also, may have more to do with the absence of fatalities from chloroform obtaining in Edinburgh than from any peculiarity in the exhibition of the drug.

In the majority of private operations the anæsthetist is a stranger to the patient. This, when possible, should be remedied. Every surgeon must have remarked the good effect produced upon a nervous patient by a cheerful and optimistic view of the approaching operation when expressed by a comparative stranger and one entitled to speak with authority. Where there are signs of great anxiety and engorgement of the right heart I prefer to give gas and ether. But occasionally these cannot be obtained or are distinctly contra-indicated and chloroform has to be used. It is here that morphia is so useful. One-sixth to a quarter of a grain should be injected at least half an hour before the administration with, as a rule, the happiest results. Where morphia again is contra-indicated—and in spite of the textbooks such cases are rare—one would naturally turn to the bromides of ammonium and sodium, but I have not yet had occasion to use these drugs.

High Barnet.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF FRACTURED RIBS FOLLOWED BY TUBERCULOUS CASEOUS PNEUMONIA AND DEATH.

BY ROBERT E. LORD, M.D., B.Sc. LOND.

THE case of pneumonia following injury and leading to fatal tuberculous mischief in the lung recorded by Dr. Thomas Harris in *THE LANCET* of April 16th, 1898, induces me to report the following case, which is the only one of the kind I have seen during five years' practice in a health resort to which cases of phthisis are constantly sent during the winter.

A man, aged twenty-nine years, was seen by me in December, 1894, and gave the following history. Until the previous September he had enjoyed good but not robust health. He had not suffered from any but the illnesses of childhood and had always been of strictly temperate habits. He had led a sedentary life, taking very

¹ *THE LANCET*, Nov. 24th, 1894.

little exercise and spending his days in his office and his evenings at home or in places of amusement. His family history was good except in the case of his father, who had had a cough accompanied by much expectoration and loss of flesh for some months before his death which happened in the spring of 1894 from pneumonia. In September the patient while at his office was "larking" with some fellow-clerks and fell against the corner of a table, striking the upper part of the right side of his chest against it. He felt severe pain which was so violent as to compel him to go home, where he was seen by his usual medical attendant, who found fracture of three or four upper ribs and applied strapping and sent him to bed. During the evening a small quantity of bright-red frothy blood was expectorated. On the following day he was feverish, the pain still continued and there were signs of pleurisy. Slight hæmoptysis occurred for some days, and signs of consolidation were developed, and later of softening at the right apex. The temperature for several weeks reached from 101° to 102° F. in the evening; he lost flesh, had severe night-sweats, and about a month after the receipt of the injury had a severe attack of hæmoptysis, after which he temporarily improved and was able to be moved to Colwyn Bay in October. In December, when I first saw the patient, he had signs of an extensive cavity in the right apex and of consolidation with some softening at the left. There were large masses of hard lymphatic glands in both supra-clavicular fossæ, especially on the right side, and on this side they were said to have developed soon after the accident. The evening temperature varied from 101° to 103°, falling to 99° or thereabouts in the morning. He had severe night-sweats, much cough, and profuse expectoration containing many tubercle bacilli. The disease rapidly spread to other portions of the lungs; the larynx and pharynx became affected and ulcerated very extensively, and he died on March 31st, 1895, about six months after the accident which apparently originated the affection.

Remarks.—There was evidently a lesion of the lung caused by the fractured ribs either at the time of the accident or within a few hours of it and a favourable site for the growth of tubercle bacilli was thus prepared. From the facts that he had led an in-door life, that he had lived for years in the house where his father (who probably had phthisis) had lived and died, and that the signs of tuberculous infection showed themselves very soon after his fall, it seems fair to assume that he probably already had in his respiratory tract tubercle bacilli which were only enabled to flourish when the special opportunity thus offered arose. This they seem to have done most luxuriantly, as his symptoms were of the acutest character from the very first. It appears that either the infection must have been a very severe one or the powers of resistance of the patient were very slight. No necropsy was obtained, and therefore no opinion can be hazarded as to whether or not he had any tuberculous lesions of older date than the accident.

Colwyn Bay.

TWO CASES OF PERFORATION OF THE INTESTINE BY ASCARIDES.

BY P. APOSTOLIDES, M.D.,
PHYSICIAN TO THE GREEK ROYAL NAVY.

IT is known that round worms can enter the various ducts and organs communicating with the digestive tube in their normal condition, but perforation of the sound intestine by ascarides is a very rare occurrence. The event has been much discussed and even doubted by many authors. According to Davaine, Niemeyer, and others the perforation could only take place in the event of the mucous membrane having been previously ulcerated. Other authors have either discussed the fact or leave it unmentioned. However Leuckart, Mandière, and Magnac say that ascarides can penetrate the peritoneum by primitive perforation of the sound mucous membrane. Charsley also reported some time ago an observation in favour of this assertion. This accident is in my opinion much more frequent than is commonly supposed. I am led to this conclusion by the observation of two such cases in the space of ten years at the Naval Hospitals of Piræus and Salamis. One of these two cases I have already published in the medical journals *Taynnós* of October, 1886, and *La Semaine Médicale* of

Nov. 27th, 1886. The second case I now send to THE LANCET, repeating also the first.

The patient in the first case was a man who was admitted to the Naval Hospital of Piræus with attacks of simple intermittent fever. On the night of the fourth day after his admission he presented all the symptoms of intestinal perforation and acute peritonitis and died in the evening of the following day apparently from that cause. At the necropsy the cavity of the peritoneum was found to be full of a sero-purulent foetid liquid. A little above and to the right of the umbilicus the head of a live ascaris was detected. Upon careful examination, between the jejunum and ileum, in a portion of the intestine otherwise perfectly sound, there was found a small, circular perforation of the size of a lentil, through which the ascaris had penetrated into the cavity of the peritoneum. In the intestines there were also numerous ascarides but the mucous membrane was perfectly sound in all its extent.

The patient in the second case was a sailor, aged twenty-two years, who was admitted into the naval hospital of Salamis on May 7th, 1897, with violent pains in the abdomen, meteorism, foul tongue, and a temperature of 39.2° C. (102.6° F.). During the four days that he was under observation he showed symptoms of peritonitis which would not yield to any treatment and he died on May 11th. At the necropsy the peritoneum was found full of a sero-purulent liquid. At the upper part of the ascending colon there was discovered a perforation of the size of a lentil and from it was removed part of an ascaris the remaining portion of which was found inside the intestine.

As these two cases came under my notice in so short a space of time it is probable that many similar ones occur without their true nature being recognised and that the symptoms are wrongly attributed to peritonitis of tuberculous or other nature.

Piræus, Athens.

A CASE OF DEAD TWIN RETAINED TO FULL TIME.

BY DAVID ROSS, M.B. ABERD.

ON Feb. 15th, 1898, I was called by a Royal Maternity Charity midwife to see a woman, aged thirty-two years, a poor Jewess, whom she had just delivered. The patient was the mother of five healthy children, two of them being twins. During the first three months of her pregnancy she stated that she thought she was carrying twins, the early symptoms being very similar to those of the previous occasion on which she had twins. One morning in her fifth month, after she had felt quickening, she stated that she had had a fright, and on that evening severe metrorrhagia set in which lasted for three days; then for three months after she had a slight yellowish discharge. During the last four months she said that she distinctly felt the movements of a child on the right side, but that in the lower part of the abdomen on the left side she felt as if she were carrying a stone and had a feeling of great weight and dragging pain. Labour began on Feb. 13th at midnight and continued all next day till 6 P.M., when she was delivered, with little trouble, of a dead foetus about five months old. The midwife waited, as she knew there was another child, and at 8 A.M. on Feb. 15th she was delivered, after a very severe labour, of a fine, healthy, full-time girl. The body of the foetus was flattened antero-posteriorly, while the head, due to a twist on the neck, was flattened from side to side. The skin was soft, moist, and tough, was very pale, and felt like wet chamois leather; but there was no offensive smell or any sign of decomposition. The features were quite unrecognisable and the sex was indistinct.

The interest attaching to this case is that in spite of the excessive metrorrhagia at the fifth month the dead foetus was retained, constituting rather an uncommon case of missed abortion.

Kingsland-road, N.E.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.—The annual report of this institution states that 1273 in-patients were admitted during 1897, being 62 in excess of the previous year, and 2445 out-patients were treated, against 2660 in 1896; 259 patients were sent to the Pearn Convalescent Home. The ordinary income for the year was £5762 and the total expenditure was £6129.