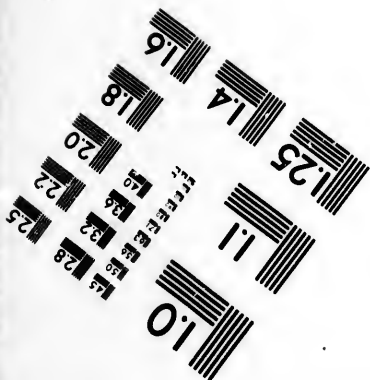
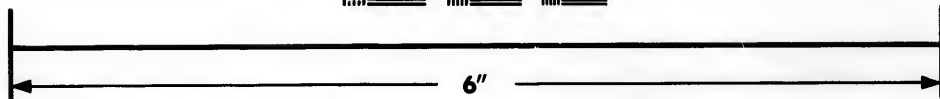
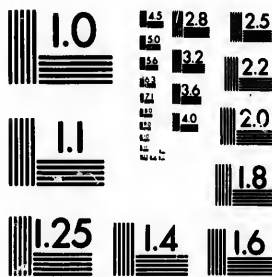


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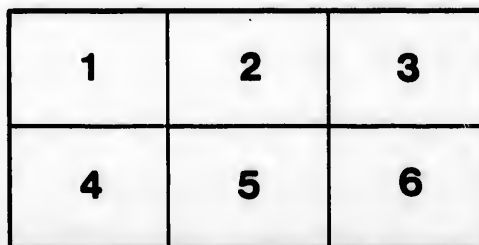
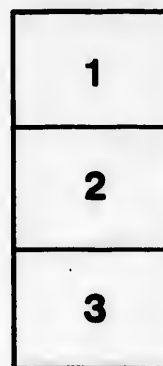
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*Practical Pathology of the*  
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FRANCIS J. SHEPHERD, M.D.



FROM  
THE MEDICAL JOURNAL OF THE MEDICAL FACULTY



MANIA FOLLOWING OPERATIONS, ILLUSTRATED  
BY SIX CASES.<sup>1</sup>

BY FRANCIS J. SHEPHERD, M.D.,

PROFESSOR OF ANATOMY IN MCILL UNIVERSITY, SURGEON TO THE MONTREAL GENERAL HOSPITAL.

THE fact that insanity may follow accidental or surgical injury, other than that involving the brain and its membranes, has long been recognized, and not a few cases are reported in medical literature.<sup>2</sup> Individuals addicted to alcoholic excesses not infrequently, after severe injuries, especially of the lower extremities develop delirium tremens, and, indeed, it is not so very uncommon to see delirium follow severe injuries of the lower extremities in persons who are not habitual drinkers. Only a short time ago I saw two cases of delirium following intracapsular fracture of the femur in old women. The cases, however, which I desire to notice, are those in which insanity is developed after surgical injury. In these cases, when anæsthetics are administered and iodoform used, it is often difficult to decide correctly the cause of the mania.

In persons predisposed by heredity to insanity, any shock or disturbance of function may produce an attack of mania, and any disease in which delirium occurs may set up a chronic mental disorder. We see this in the delirium produced by fevers such as typhoid, also pneumonia. Dr. Savage<sup>3</sup> says that "those who come of insane stock are very often unusually liable to infection, and having contracted an acute disease, they are more likely to have early and severe delirium."

Cases of insanity, melancholy, etc., are reported from time to time following operations on the female genital tract. Not a few cases of insanity following ovariectomy<sup>4</sup> are recorded, and in a recent paper by Werth six cases of psychological disturbance are reported in 300 operations on the genital tract.

The mental disturbance lasted from two to six weeks: three cases were cured and three were not improved; one of the latter committed suicide.

<sup>1</sup> Read before the Surgical Section of the Canadian Medical Association, Ottawa, 1888.

<sup>2</sup> As for example, A. Schroetter; *De Morbis Animi præcipue in combinatione vulnerum*, 1804. Also Hauser, 1851; Heyfelder, 1872. J. Festal: *Du Delire nerveux traumatique*. Davidson: *Mania after Amputations*, *Lancet*, 1875. G. Spies: *Zur Casuistik der traumatischen Manie*, 1869.

<sup>3</sup> *Brit. Med. Journ.*, December 3, 1887.

<sup>4</sup> See paper by Barwell and discussion thereon at the London Clinical Society, March 13, 1885; *Brit. Med. Journ.*, vol. I., 1885.

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Two of the cases followed extirpation of the uterus, two castration, and two washing out of the bladder. Ahlfeld reports a case of marked mental disturbance following the introduction of a speculum.<sup>1</sup> In a paper read before the Dublin meeting of the British Medical Association, August, 1887, by Dr. George Savage,<sup>2</sup> of London, a number of cases of insanity are reported following the use of anaesthetics in operations. In some of the cases cited, the insanity is clearly due to the anaesthetic, but in others the connection is not so clear, and traumatism as a cause cannot be altogether excluded. Dr. Savage asks, "How long after an operation may the effect of an anaesthetic be felt?" In certain cases, in which days have elapsed before symptoms develop, it is hard to connect the conditions; but in many of these cases careful examination will reveal that there was depression, drowsiness, or irritability from the first, so that although the maniacal attack had been postponed, the disorder started at the time of the operation. In some cases Dr. Savage has seen death follow from a condition resembling general paralysis of the insane.

In a case of surgical operation followed by insanity, in which an anaesthetic has been used, it is very difficult to say which was the exciting cause, the traumatism or the anaesthetic. It appears to me that traumatism has a much larger share in the production of the mania, for in how many thousands of cases is an anaesthetic given for purposes of exploration and examination without any ill effects resulting. In all the cases but one, reported below, iodoform was used in small amount, and on the surface only. In all the cases mania rapidly followed the operation.

The cases of iodoform insanity that have been reported have usually followed the use of large quantities of the drug for a considerable period of time; hence I think that iodoform as a cause of insanity in these cases may be excluded. Whether the anaesthetic had anything to do with the occurrence of the mania I am not prepared to say. In Case II. it had been used several times before without any ill result. In two of my cases the patients had a distinct family history of insanity. In Case V. the patient was an epileptic, and several of the family were likewise affected. In Case III. no family history could be obtained, but the patient had always been queer and at times very excitable. Two of the cases died maniacal, and one case never recovered complete sanity. In one case pneumonia was a complication, and no doubt hastened death. Some may say that the mania was produced by the pneumonia, but mental disturbance was noticed before the supervention of pneumonia, and was either due to the anaesthetic or the surgical injury, or to both causes combined. Three of the cases followed operation on the abdomen and its walls. Whatever was the cause of the mania in the cases reported

<sup>1</sup> Münchener med. Woch., June 5, 1888; quoted in AMERICAN JOURN. OF MED. SCIENCES, July, 1888.

<sup>2</sup> Loc. cit.



below, the fact remains that mania followed operation, and in three cases with disastrous results.

Seeing that such serious results occasionally follow operations performed on individuals who have a strong predisposition to insanity, or who have suffered from previous attacks, the surgeon should consider whether it is advisable to operate on such individuals when the operation is of no great urgency, and is not essential to the prolongation of the patient's life.

CASE I.—I. B., merchant, *æt.* fifty, first seen April 14, 1886, at the request of Dr. A. A. Browne, had been ailing for some time, and for the last ten days had been suffering from acute pain in the right iliac fossa with elevation of temperature. Never had any rigors. The right iliac fossa was excessively tender and could not be satisfactorily examined, so next day patient was put under ether. Obscure fluctuation was felt and pus reached with an aspirating needle. An incision was made some three inches long immediately internal to the right anterior superior iliac spine, and a deep dissection revealed an abscess containing half a pint of stinking pus and some small pieces of fecal matter; the ascending colon was seen at the bottom of the abscess cavity. The cavity was washed out with a weak solution of carbolic acid, a large drain introduced, and a small quantity of iodoform dusted over the wound. Dressings were of washed gauze and sublimated jute. Next day patient was doing well. The wound was dressed, and a few pieces of feces had come through the tube; a small quantity of iodoform was again dusted over the wound.

On the day following, patient had delusions, saw snakes and imagined some one was coming to take him away; he was with difficulty kept in bed, and on one occasion escaped from the nurse and tried to jump out of the window. Iodoform was stopped, and all that was possible removed from the wound, and boracic acid substituted. Although there were no tremors, both Dr. Browne and myself thought that the case was one of commencing delirium tremens, as the man was an immoderate drinker. In a few days the delirium increased, and, in fact, the patient became quite maniacal, necessitating constant watching by skilled attendants. The delusions still continued; he was very suspicious of some plot to destroy him; he always recognized his friends. During all this time the wound progressed most favorably, and although the patient was weak, and lost considerable flesh and at times refused his food, he went on fairly well. The mania lasted exactly one month until May 15th, when he suddenly recovered his sanity. By this time the wound had completely healed. The patient has been perfectly well in his mind ever since. A few weeks ago, both bones of the left leg were broken by an accident, and fearing a return of his insanity I avoided giving him an anæsthetic whilst putting up the limb. Throughout this last illness his mind has remained clear. The patient has a well-marked family history of insanity: his father died in an insane asylum, and he has an insane uncle and cousin; patient himself has always been subject to ungovernable fits of temper.

CASE II.—J. H., lawyer, *æt.* twenty-seven, a strong, healthy-looking man, for years had been troubled with necrosis of the lower end of the left femur, caused by an injury when a boy. At times the thigh be-

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came painful and swollen, when relief was afforded by the discharge of pus through an old sinus in the inner side. At times, pieces of bone came away. In the summer of 1885, I placed patient under ether and removed a piece of dead bone. The wound was freely dusted with iodoform. In a couple of weeks he went home perfectly well. He came to me again on December 3, 1886, suffering acute pain in the lower end of thigh and great tenderness on pressure at site of old sinus on the inner side. His temperature was 100°. Pulse 120. On December 7th, assisted by Dr. Roddick, I cut down on the outer side of the femur in search of the cause of the pain; no pus was found, but only thickened periosteum and a sinus leading to rough bone. The patient recovered well from the ether and said that the pain was much relieved. The wound, I should have said, was dusted over with iodoform and dressed with gauze and sublimated jute.

Next day patient was very nervous, excitable and irritable, and could not sleep. This condition continued till December 16th, when the knee-joint became swollen and was evidently full of fluid. His temperature rose to 105°. Pus was now coming freely from the wound. As his condition was unfavorable, he was again placed under ether and the knee-joint aspirated, but only serum was evacuated. An incision was made in the inner side of the thigh at the site of the old sinus; some pus was let out and a through drain was introduced between the two wounds. Soon after coming out of the ether the patient became very nervous, had tremors and delusions. In a day or two, the temperature fell and the knee became quite normal in appearance, but his mental condition became worse. He became morose, would not answer when spoken to, and fought whenever his thigh was dressed. He recognized everybody, but was in great fear, and was continually shrieking at the top of his voice. He shouted single words as "Doctor," etc., for hours together.

By the end of December his mania became furious, he was with difficulty kept in bed and tried to bite any one who came near him. He now failed to recognize his immediate relations. During all this time the wounds in the thigh were doing well, and his temperature was normal. He took nourishment fairly well, but having always been a strict teetotaler he persistently refused stimulants. He became weaker and weaker, and at last, on January 8, 1887, died of exhaustion. No autopsy was allowed.

The patient had been physically very strong, and a good foot-ball player and athlete. His temperament had always been most excitable. His (maternal) grandfather had had frequent attacks of insanity, and committed suicide in one of his paroxysms. The amount of iodoform used was very small, and was discontinued after the second day. In this case, in which the operation was very trifling, the insanity may have been induced by the anæsthetic.

CASE III.—James B., æt. seventy-two, butcher, was admitted into the Montreal General Hospital, July 10, 1888, suffering from a large strangulated inguinal hernia of the right side. The strangulation had lasted three days, and stercoraceous vomiting had set in. Patient had suffered from hernia for a number of years, and previously when it became strangulated had always been able to reduce it himself. The

man was placed under ether, and, taxis failing, an incision was made over the swelling; the sac, which contained a quantity of bloody serum, was opened, and the bowel, which was in fairly good condition, reduced. The sac was ligatured and cut off, and the canal closed with a couple of silk sutures. The parts were painted with a solution of iodoform in alcohol and dressed with washed gauze.

Patient recovered well from the operation, and next day passed flatus freely. It was noticed, however, that he was a little queer; he got up that night, wandered about, and helped himself freely to water from the tap; his temperature and pulse were normal and the abdomen was painless and flaccid. On the third day after operation he had a temperature of 103°, and was quite delirious. On examining his chest, the base of the right lung gave evidence of a commencing pneumonia. Next day his temperature was lower, but he had delusions, and could with difficulty be kept in bed. He insisted on tearing the dressings off his wound. His bowels moved freely on the third day, and he never developed any symptoms referable to his abdomen. He had some slight suppuration at the upper end of the wound, which was a large one; this was, no doubt, due to his constantly handling the parts and tearing off any dressings which were applied. When I saw him on the morning of the fourth day, he appeared fairly sensible, and agreed not to disturb the dressings any more; but in less than an hour they were all torn away. His mental condition kept getting worse, and on the tenth day after operation his delirium was distinctly maniacal; he kept continually shouting at the top of his voice and tried to bite anyone who came near him. His temperature was now normal and the pneumonia was resolving. At times the patient would refuse food, and again would drink milk eagerly. Gradually becoming weaker, he died July 29th.

At the post-mortem, the abdomen was found to be perfectly normal, and there was not the slightest trace of peritonitis. The inguinal canal was closed, showing that the cure of the hernia was a radical one. There was pneumonia at the bases of both lungs. Brain apparently normal. The portion of bowel which had been constricted was yet much discolored, but in good condition.

I could get no history of insanity in this case, as his wife knew nothing of his family, who lived in England. She said her husband was very queer at times and often very irascible; he occasionally indulged to excess in alcoholic liquors.

CASE IV.—Mary M., servant, unmarried, æt. fifty-one, was admitted into the Montreal General Hospital in May, 1885, with scirrhus of the left breast of eight months' duration. The axillary glands of that side were enlarged. She had not been in good health for some time, and on examining her urine, a large quantity of albumen and casts was found. The breast was removed May 18, 1885, and the axillary glands dissected out. She made a good recovery from the operation, the wound healing in ten or twelve days. Soon after the operation she was noticed to be a little queer in the head and had delusions, and these persisted after she left the hospital. She never recovered from the mild form of insanity then induced. Two years later, she died in the hospital of cerebral hemorrhage. The scirrhus did not return. I could get no

6      SHEPHERD, MANIA FOLLOWING OPERATIONS.

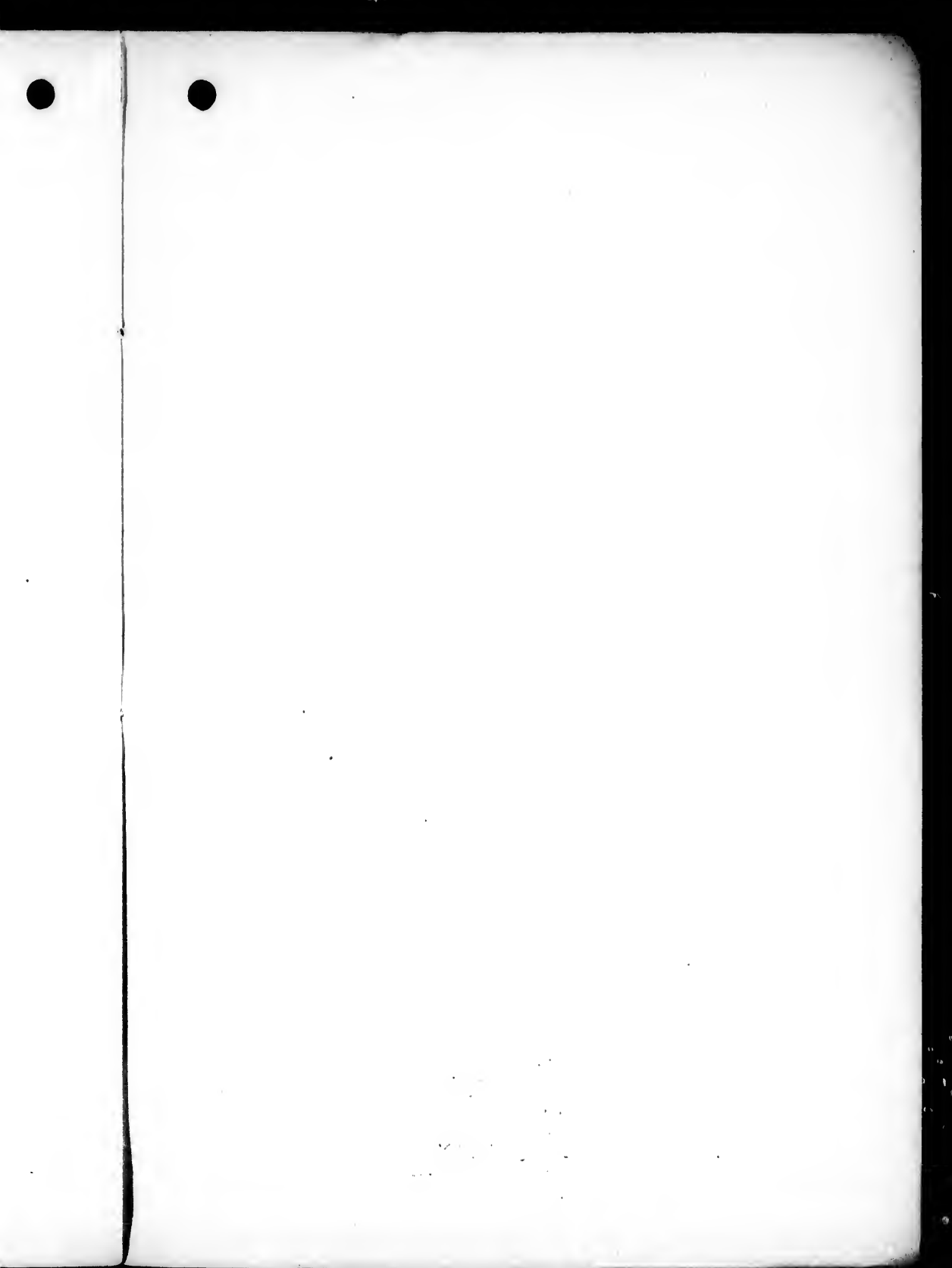
family history of insanity in this case, as she had no relatives on this side of the Atlantic.

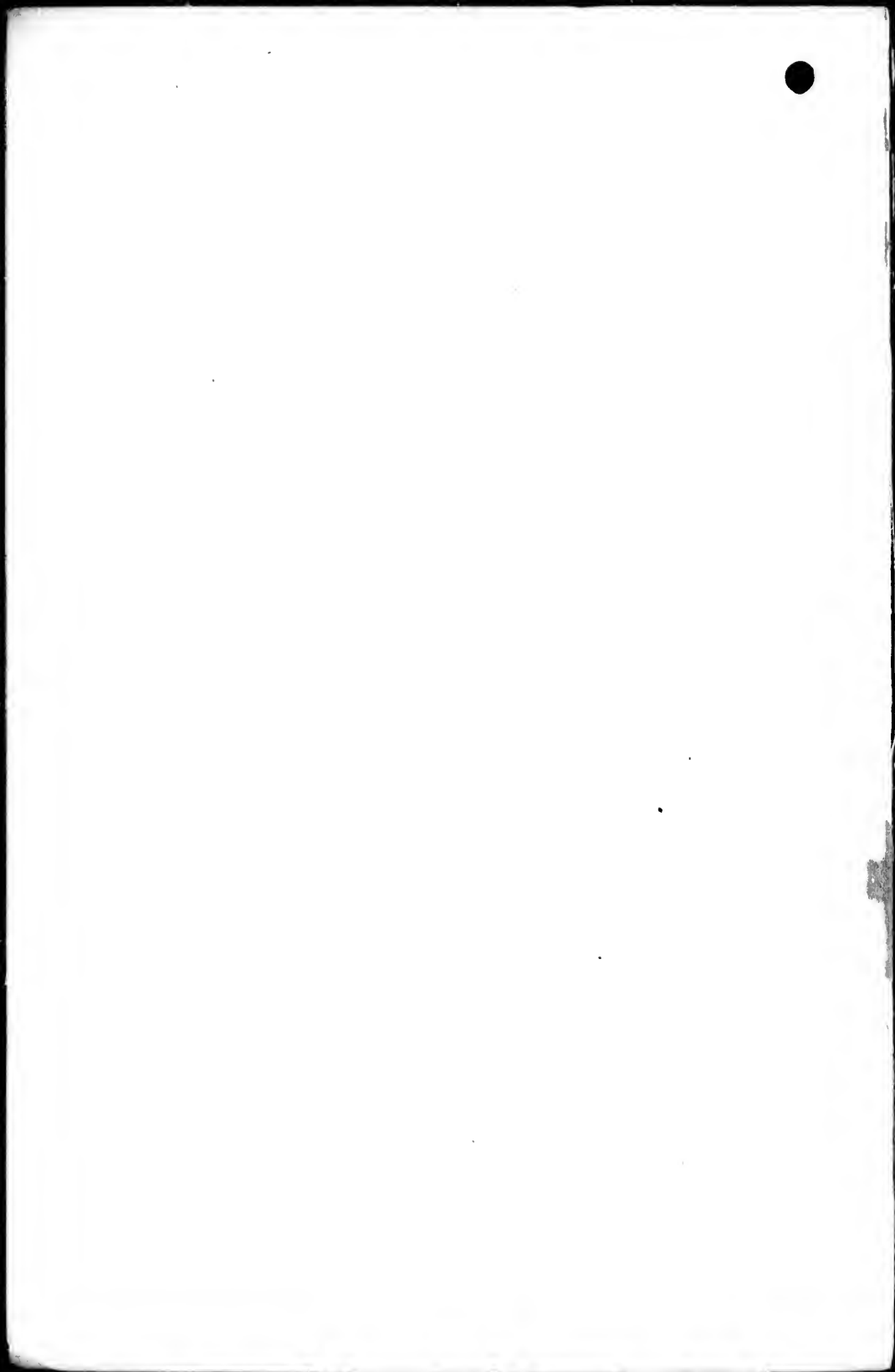
CASE V.—In January, 1886, Dr. George Ross asked me to see a case of abscess, following typhoid fever, in a boy aged twelve. The abscess was deeply seated in the lumbar region. The boy was placed under ether, and a deep dissection made to evacuate the abscess, which seemed to be in connection with the sheath of the psoas muscle. The boy, in a day or two after the operation, became quite demented—in fact, was quite silly. This lasted for several weeks, when he slowly recovered. The abscess did well; healed completely in two weeks. In this case the demented condition may have been induced by the typhoid fever; but still it did not come on until after the operation, which it closely followed. The boy was an epileptic, and several of the family were likewise affected.

CASE VI.—This case I saw in consultation with Dr. Gauthier, of Montreal. The patient was a woman, æt. forty-five, and the mother of several children. She had had a cellulitis of the arm, which had been freely incised. Chloroform had been administered three times. She was somewhat strange after each administration of the anæsthetic; after the last, during which several deep incisions were made, she became quite insane. When I saw her, she was in good general condition—pulse and temperature normal, and arm doing well. She nursed her arm under the firm conviction that it was a baby. Although ordinarily a person of the most retiring disposition, she now continually laughed, sang, and danced, and kept asking us if we thought her crazy. Several of her near relatives had been very peculiar, and there were several drunkards in the family, but, as far as I could learn, no distinct insanity. She completely recovered her sanity some two weeks after I saw her.

In this case it is possible that the anæsthetic had more to do with the mania than the operation.









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