much argued. For the surgeon is quite unable in bad cases of cranial injury to differentiate symptoms, and to say how far those that are present in any individual case are due to the common factor—cerebral injury—which resulted from the force that produced the fracture, or how far they are caused by the depressed and fractured bone. But I am not sure that this is a point of much practical importance, for in a bad case of fracture of the skull cerebral injury is probably already severe, and the operation of elevating depressed bone and of removing comminuted fragments is not likely to aggravate the trouble; whereas in a less severe example in which the cerebral injury is likely to be less serious, the existence of depressed bone and of comminuted fragments must act injuriously, and should consequently be removed. Under all circumstances, it is consequently the surgeon's duty to remove whatever sources of trouble the presence of a depressed fracture may bring to an already serious case of cerebral injury.

The operation of trephining or of elevation of bone in depressed fracture is called for more with the object of removing from the brain what may or will be sources of local irritation rather than with any view of removing the effects of the depressed bone; for it is well recognised that, *per se*, a large area, and a considerable amount, of depressed bone are required to bring about symptoms of compression in an otherwise uninjured brain. Again, it is well known that a considerable extravasation of blood upon the surface of the brain, probably five or six ounces, whether between the bone and dura mater or in the cavity of the arachnoid, is required to bring about marked evidence of its presence, in the form of paralysis from compression. The rupture of the middle meningeal artery is a special complication of cranial injuries, or of fracture of the skull, but I do not propose to discuss it here at any length. I cannot, however, pass it by without referring to the exceedingly able article upon the subject published in the Guy's Hospital Reports for 1886, vol. xliii., p. 147, by my friend and colleague, Mr. H. A. Jacobson, since it contains not only a masterly account of every case on record up to date, but also a summary of the whole subject, which claims the close attention of every surgeon. His summary is as follows: 1. That the violence which causes middle meningeal hæmorrhage is often slight, and that in these cases no fracture may be present. 2. That where there is a fracture, it is often a mere fissure, and may involve the internal table only. 3. That the history of the case, and, above all, an interval of lucidity or consciousness, are invaluable; the latter being worth all the other symptoms put together. 4. That the symptoms of compression are in some cases deferred; that their onset may be then very sudden and rapidly fatal, failure of breathing being a marked feature. 5. That in those cases where the history is deficient, especially as to any interval of lucidity, and where it is difficult to be certain about the existence of hemiplegia, dilatation of the pupil on one side, that side corresponding to the clot, is a sign of great value. The explanation of this sign, that the third nerve is being pressed upon by a clot large enough to reach into the middle fossa, we owe to Mr. Hutchinson, with whose name in future this condition of the pupil should be associated. 6. That after trephining, exposure and partial removal of the clot, very severe hæmorrhage may set in and prove difficult to arrest. 7. That in severer cases laceration or contusion of the brain are only too frequently complications. This latter conclusion consequently links this special class of cases with the more general number of cranial injuries, and enables the surgeon to look upon them as a whole in the light in which I have now placed them before you.

There are many other questions in the surgery of cranial injuries which require elucidation, but time will not allow me to bring them under your notice. The points and questions I have selected are such as I believe to be most important to enable the younger surgeons and practitioners to read rightly the manifold and somewhat puzzling phenomena which severe cranial or cerebral injuries exhibit, and I have some confidence in the belief that, if the views I have expounded were accepted, the teaching and understanding of cranial or cerebral injuries would be greatly simplified. In conclusion, I must ask you who have listened to me so patiently and kindly to think over the questions I have ventilated, and to accept from me my warmest acknowledgments of the honour you have conferred upon me by allowing me, as your Hunterian Professor of Surgery, to deliver these lectures from this chair.

CASE OF
STRANGULATED CÆCAL HERNIA, TREATED
BY HERNIOTOMY AND LAPAROTOMY;
DEATH FROM APOPLEXY.¹

By SURGEON-MAJOR W. GRAY,
SENIOR SURGEON, JAMSETJEE JEJEEBHROY HOSPITAL, BOMBAY.

A. L.—, a Pathan, by trade an itinerant fruit seller, aged thirty, was admitted to hospital on May 13th, 1887, for a strangulated inguinal hernia on the *left* side. He stated that a reducible hernia had existed for six years, giving him little trouble, but that on the day previous to his admission, while on his rounds, it had descended and he was unable to get it back. He accordingly came to hospital for relief. The bowels had not been moved for two days. There was no vomiting; no tympanites; pulse soft and of fairly good volume; temperature 99°. It should be mentioned, too, that the patient was also the subject of a moderate degree of mitral obstruction. The scrotal tumour was the size of a small cocoanut, rather solid to the feel, and somewhat tender. As far as could be ascertained he had undergone no treatment before being seen at the hospital. An ice-bag was placed over the tumour, and a morphia injection given, but they failed to bring about any improvement in the state of affairs. Taxis was tried after a suitable interval, but without avail. At 10 P.M., as he was just beginning to show a little distress, I was sent for, and taxis, under chloroform, having again failed, I proceeded to perform herniotomy. On opening the sac—a practice which is the rule in the Jamsetjee Jejeebhoy Hospital—the first thing that came into view was the vermiform appendix. Further examination showed that the contents of the sac were the cæcum and about three inches of the ileum, all of which were healthy-looking, but a little congested. The cæcum was filled with faecal matter and a little gas; the small intestine above was also distended with liquid fæces. The ring having been enlarged, reduction was attempted, but, to my surprise, I was unable to make the slightest impression on the hernia. The opening was still further enlarged until the gut lay loose in it, so to speak, and another and futile attempt at reduction was made. My next step was to try to remove some of the contents of the cæcum, but even with a large cannula they were too solid to come away. In any case, the little that was taken out was immediately replaced from the ileum. As far as I could discover, there was no obstruction to the return of the protrusion in the vicinity of the ring itself; all seemed free enough. The sensation conveyed during each attempt at reduction was that of pushing against some semi-elastic mass within the abdominal cavity, or as if the cæcum had descended behind the peritoneum. The gut would not “run” or “slide.” Being now satisfied that I should not succeed in reduction by the usual method, I determined to open the abdomen between the umbilicus and pubes. I concluded that, if I failed to *push* the gut in, it could at least be *pulled* back. No further time was lost, therefore, in carrying out this determination; the abdomen was opened, and this is what I found: the cæcum had come across the cavity, from its normal position to the left ring, dragging with it a short meso-cæcum as well as a considerable amount of the peritoneal lining. Behind and above this, effectually blocking the road back, was a mass of small intestine. This being got out of the way, the ascending colon was sought out and seized, and after some traction, aided by pushing from without, the hernia was brought back into the abdominal cavity and properly replaced. All the parts, as well as the peritoneum generally, were now cleaned, and the abdominal wound closed with silk and wire sutures in the usual manner. My next step was to place a double silk ligature round the neck of the sac and fix the mass in the ring with a couple of sutures. The inguinal wound was then closed and both were put up with dry antiseptic dressing. The operation lasted an hour and a half. Notwithstanding its length and severity, as well as the mitral disease from which the patient suffered, he bore the anæsthetic wonderfully well.

¹ Read before the Bombay Medical and Physical Society.

Chloroform and Bryant's mixture were given alternately. In four or five hours he had quite recovered from its effects.

The operation described above was done under circumstances of some little difficulty. It was undertaken at night, the place was badly lighted, and the weather was very hot and oppressive. My observations of all the points connected with the case were not, therefore, so accurate or minute as they might have been under more favourable conditions.

For some days the patient went on fairly well, the temperature keeping generally at 100° or below. There was no pain or tympanites to speak of. He had two healthy motions on May 17th. He complained of cough on the morning of the 19th, and in the afternoon the temperature rose suddenly to 104·8°. Next day an attack of acute bronchitis was established. The coughing caused a good deal of abdominal pain. On the 20th the dressings were removed for the first time, when both wounds were found to be firmly united. They were re-dressed with a little dry boric cotton and oakum. The cough became less under treatment, and the temperature fell to normal. This favourable turn, however, was not to last. Diarrhoea set in on the morning of the 21st, and later on blood and mucus appeared in the stools. For the next ten days or so this state of matters continued. There were from six to ten liquid motions daily, usually containing blood and mucus, sometimes without either. The temperature remained at or about 100°, while the patient became steadily weaker and more emaciated. There was little or no abdominal pain, nor was there any tenderness about the cæcum. Every kind of anti-dysenteric treatment at our disposal was tried, but without effect. The wounds were again opened on the 23rd and the sutures taken out. No further dressings were required. On the 29th the calls to stool were hourly, and the patient became much weaker. A turpentine enema, with an increased amount of stimulant, brought about considerable improvement, and from this time he took a turn for the better. It now seemed evident that the source of the trouble lay in the rectum, and the appearance of pus in the stools served to confirm this view. Astringent injections, chiefly nitrate of silver, were now resorted to, with considerable benefit. The appetite improved, and he began to regain strength daily, although the rectal discharge still continued. I now had every hope of bringing him round, when about 10 o'clock on the morning of June 7th, after I had paid him my usual visit, he suddenly became unconscious, with muscular tremor, dilated pupils, and stertorous breathing. The temperature shortly rose to 103·4°, and the pulse was almost imperceptible. From this state he never rallied, and died at 4.30 in the afternoon of the same day.

I was fortunate in being able to obtain a post-mortem examination, a chance which does not often occur in surgical cases in Bombay; this was held the next morning. The wounds were soundly healed. On opening the abdomen everything appeared normal. Nothing was displaced, and there were no signs of peritonitis having occurred. The cæcum was in its proper position, the only thing abnormal about it being some extravasated blood in the neighbouring cellular tissue, showing, no doubt, where the lacerations had taken place at the time of its last descent. Being laid open, its mucous membrane, as well as that of the rest of the colon down to the sigmoid flexure, was apparently healthy. Lower down, however, and in the rectum, were several ulcers. The source of the dysenteric discharge was thus clearly demonstrated. A careful examination of the left inguinal region was next undertaken. Looking at the parts from within, the situation of the internal ring was indicated by a dimple in the peritoneal lining of the wall. No trace of a canal could be demonstrated. On opening up the external wound and dissecting the parts carefully, the external ring and inguinal canal were found contracted, and plugged by the neck of the sac encircled by its double silk ligature. All the parts were firmly fixed in position, and matted together by recently formed fibrous tissue. In fact, a radical cure had been obtained. An examination of the body of the sac, which still remained in the scrotum, showed its opposing walls adherent throughout. It was in process of obliteration, and it required some little force to tear asunder the adhesions. Proceeding to the heart, the mitral orifice was seen to be narrowed, while on the segments of the valves were several nodules of fibrin loosely attached and easily separable. Here at least was a plausible explanation (already suspected)

of the apoplectic attack—namely, the lodgment of one of these vegetations in a cerebral artery. To confirm this view, or otherwise, the brain was removed and directions were given to have it preserved and hardened for later and more careful examination. Unfortunately, these directions were not attended to, and when I called for the brain it was decomposed beyond recognition. Considering all the circumstances, however, the explanation already suggested of the fatal result is probably the correct one.

Connected with this case several very important points invite remark. First, the hernia was cæcal. Within the last three or four years I have had to deal with three cases of strangulated cæcal hernia in adults, but all were on the right side. In the case just detailed the hernia was on the left side. As far as I can recollect, only one other case of the kind has been recorded, the reference to which I am unable to lay hands on just at present. The complete failure to reduce, after the usual operation of herniotomy, is noteworthy. In each of the cases of right cæcal hernia just mentioned difficulty of reduction was encountered, but I succeeded at last. Judging at least from my experience, it would seem that a cæcal hernia is more difficult to reduce than any of the other varieties. The effecting of reduction by laparotomy, after herniotomy had failed, is, as far as I know, an operation that has not previously been recorded. I see in one of the journals recently a writer advocating laparotomy for strangulated hernia, but I do not think his views are, for obvious reasons, likely to be adopted, except, indeed, in cases of necessity, like the one under discussion. It has since occurred to me that inversion of the patient might possibly have got the obstructing mass of small intestine out of the way, and have thus permitted of the return of the cæcum without the necessity of resorting to the extreme measure described. Considering especially the adverse circumstances under which the operation was done, the rapid healing of both wounds without peritoneal or other inflammation may reasonably be regarded as a triumph of simple antiseptic surgery. Thorough cleanliness and dry absorbent dressing with iodoform were the only means employed. All the elaborate precautions recommended in books were disregarded. The tolerance of the peritoneum to prolonged operative interference is also well illustrated in this case. The vitality of the patient seems remarkable. Although the subject of mitral disease, he bore the anaesthetic perfectly well for an hour and a half, and appeared to suffer in no way from its effects. The complications, too, during the progress of the case, the severe attack of bronchitis, and the exhausting rectal discharge, were, together with the operation, not able to kill him. But for that untoward embolus I feel confident he would have come safely through all his troubles. The last point to be noted is the ease with which a radical cure of the hernia was effected by the simple procedure of placing a silk ligature on the neck of the sac, and fixing this in the ring by a couple of wire sutures. Its success was fully demonstrated at the post-mortem examination. Of late years it has been my usual practice to place a ligature on the neck of the sac in all cases of herniotomy, but before doing so a ring of the serous lining, opposite the point where the ligature is to be placed, is excised. This is done by way of promoting adhesion of the parts. The body of the sac is never removed; it is merely rendered aseptic, and it never gives the least trouble afterwards. Not wishing to cause further delay in the present case, I omitted to excise the ring of serous lining, yet adhesion took place quite as well without this step as with it. Authorities on the radical cure of hernia recommend the removal of the entire sac, a most troublesome piece of dissection. The examination here, however, demonstrated what I had already been pretty well satisfied of—namely, that this part of the operation is altogether unnecessary. The sac has only to be rendered aseptic, and, if very large, drained through a counter-opening, when it may safely be left to take care of itself.

Killiney, Ireland.

NEW NURSES' HOME, GLASGOW.—The inauguration of the new Nurses' Home, in connexion with the Royal Infirmary, took place on the 31st ult. It has been erected at a cost of upwards of £8000, and can accommodate 82 nurses, so that there are now, altogether, single rooms unconnected with wards for 120 nurses. As soon as the home is occupied forty beds will be liberated in the hospital and available for patients.