Reports on hospital cases : strangulated inguinal hernia / by William Mac Cormac.

REPORTS

OF

HOSPITAL CASES:

STRANGULATED INGUINAL HERNIA.

BY

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Upon such a subject as hernia it would, perhaps, be difficult to bring forward anything very novel, yet so various and so unexpected are the peculiarities occasionally presented, that an account of the four following cases will not, I should hope, prove uninteresting. All four were examples of oblique inguinal hernia, two being of the kind termed congenital, and two of ordinary inguino-scrotal hernia. These cases serve to illustrate the diversity which even one species of rupture may present; a circumstance which calls forth the resources of the surgeon, and gives practical interest to the faithful record of almost every case of this always dangerous, and not very infrequently fatal, disease.

Inguinal hernia we know to be the commonest form of rupture. About one-half the cases of strangulated hernia are of this kind; but of these, according to Mr. Bryant's statistics, one only in three requires herniotomy, the other two being reducible by the taxis. In all the four cases, the particulars of which I am about to relate, the taxis proved unsuccessful, and an operation was found necessary.

The skill of the surgeon requires mainly to be directed to solving the difficult problem as to the precise time when operative interference becomes imperative, and milder measures should be abandoned. When that decision has been arrived at, the more promptly it is carried into execution, both for preservation of life and the credit of surgery, the better. Vidal, in his great surgical work, puts this matter very forcibly, as in the following words:—"Je ne crains pas de le dire, c'est aux temporisations, et aux manœuvres trop répétées du taxis, qu'on doit rapporter les neuf dixièmes des insuccès de la kélotomie." And our own Mr. Hey tells us:—"He had often occasion to lament that he had performed the operation too late, but never that he had performed it too soon." Indeed, all modern experience proves to us with what impunity the peritoneal cavity may be opened. It is not, I believe, wounding the peritonal sac which we need so much dread as the devitalizing effects of long-continued strangulation of its contents; and, of

course, the longer this condition is permitted to subsist the greater the fatality after operation must prove.

Of all the auxiliary means employed to reduce strangulated inguinal hernia chloroform is admittedly the most valuable, and the question arises whether it might not be desirable to use it primarily in all cases. Mr. Bryant is very strongly in favour of our doing so; and he states, in support of his opinion, that amongst seventy-eight instances of reduction by the taxis of strangulated inguinal hernia, he found that fifteen, or nearly twenty, per cent. were completed under the influence of chloroform, and that in nearly all these instances all other means had been attempted, and had failed; reduction being effected by the surgeon who had been summoned to operate. It appeared to him to be only a natural and fair conclusion that we should primarily employ the means which have been proved so successful, and not waste time by the employment of other remedies when we possess one so incomparably superior. It was not possible to carry out this plan in treating all the following cases, but I am sure it would be the best rule to adopt in treating the very acute forms of this disease.

I now propose briefly to describe the examples of strangulated hernia which form the subject of this communication, and to point out what appears to me chiefly interesting in each:—

The first case was that of a man twenty-seven years of age, a chain-maker by trade. He was admitted to the Belfast hospital between twelve and one o'clock on the morning of the 6th November, 1864, suffering from strangulated inguinal hernia. He stated that he had been subject to rupture on the right side since childhood, but only wore a truss for the last two years. The instrument had lately been broken, and failing to get it replaced, the gut was continually coming down, and he often found great difficulty in replacing it. Last night, the 5th, at half-past seven o'clock, the hernial protrusion suddenly made its appearance, apparently after no unusual effort. Being quite unable to reduce the swelling, and getting alarmed at the pain and sickness which he began to experience, he obtained admission into hospital.

On examining the patient, about five hours after the accident, I found the right side of the scrotum distended by a very large tense and elastic tumour, cylindrical in form, with rounded ends. The swelling measured fully ten inches in length, and fifteen inches in circumference, as nearly as could be calculated. The penis was invisible. The testicle could be felt at the lower and back part of

the tumour, gliding freely over its surface, and was evidently contained in a distinct sac. Hardly any impulse could be detected upon coughing. Twice, before admission, the patient had vomited bilious matter, and he now complained of great nausea and depression, as well as of pain in the pit of the stomach. There was very little local tenderness or pain complained of. I diagnosed a hernia into the vaginal process of peritoneum, with the testicle shut off in its own proper tunic. The name given by Mr. Birkett to this form of congenital hernia, which was first recognized by Malgaigne, is hernia into the funicular portion of the vaginal process of peritoneum, which describes more correctly than any of the other terms employed the particular form which the disease assumes in these cases. My principal reason for supposing the hernia to be of this form was its existence from childhood, from a date long anterior to the patient's recollection. For, as Pott observes, the appearence of a hernia in very early infancy will always make it probable that it is congenital. This variety is now known to be of nearly as frequent occurrence as the ordinary congenital hernia described by Haller. Immediately after seeing the patient I gave him a dose of opium, and had him placed in a warm bath. On trying the taxis in the bath I was able in a very short time to reduce the tumour to two-thirds its former size, and I expected that in a short time the entire protrusion would disappear within the abdomen. I was disappointed, however, for no efforts on my part made any further change in the bulk of the swelling. The patient was, nevertheless, much relieved, and I felt justified in postponing any further attempt at reduction until morning. I requested my colleagues to meet me at 10 a.m. At that hour, on visiting the patient, I found that he had slept well. He complained of very little pain or uneasiness. The pulse was 60, and there seemed to be no urgent symptoms. After the consultation, at the instance of one of my colleagues who was present, I ordered the application of ice bags to the part, and the administration of a fetid enema. My own inclination, however, was immediately to attempt reduction, under chloroform, and should it fail, to operate.

The following day I found that the man had spent a restless night, and had vomited several times. He now complained of constant nausea, and severe pain in the neck of the tumour, on which the remedies employed seemed to have produced no effect. The taxis, conjoined with the trial of the other means before mentioned, having failed to induce more than a partial reduction of the tumour, herniotomy seemed the only alternative left, should the taxis, under chloroform, fail. In this view my colleague, Dr.

Murney, fully concurred. The man was, therefore, anesthetized, and the taxis tried, both by Dr. Murney and myself. It failed to produce any further diminution in the bulk of the swelling. Accordingly, I proceeded to make an incision, three inches in length, in the axis of the tumour, from a point over the internal ring, downwards to the scrotum. The different layers of fascia were carefully divided upon a director, and the sac exposed. Across it, at the region of the external ring, stretched two or three fibrous bands. These were, one after the other, divided, but the hernia still remained irreducible. On a search been made for the cause, a thick fibrous band was found incorporated, apparently, with the neck of the sac. This was most cautiously divided; and, in so doing, the sac, of which it seemed to form an integral part, was opened. A quantity of dark red serum spouted out a yard from the operating table, giving those present the impression that a hydrocele was being operated upon in mistake for a hernia. The quantity of fluid was enormous, amounting, according to our estimate, to between thirty and forty ounces. Projecting from the inguinal canal were now seen a knuckle of small intestine, dark red in colour, as well as much congested, and a small piece of omentum. That the stricture was a very tight one was proved by the condition of the intestine, and from the fact that the fluid in the hernial sac could not be forced through it. No difficulty was now experienced in reducing the the protrusion. After it had been returned a large additional portion of fluid flowed away from the peritoneal cavity. Four sutures were inserted into the wound, and water dressing was applied. The after progress of the case was uniformly good. The pulse never rose above sixty-four. On the sixth day after the operation the bowels were opened naturally, and on December 12th, rather more than one month after, the report was as follows:—"The wound is now completely healed, and the patient is walking about the ward." He was discharged soon afterwards, wearing a double truss, which was rendered necessary by the weakness of the abdominal wall on the left side. The side operated upon appeared much the stronger of the two.

This case was unusual, both on account of the large size of the tumour and the nature of its contents. It might have been mistaken for hydrocele, as the swelling had quite the same rounded form. The impulse on coughing was not at all well marked, and the neck of the sac was comparatively small. The history and the symptoms of the case, however, precluded this idea. Another feature of interest in the case was the partial reduction of the swelling, and

the subsequent impossibility, by any of the means employed, of making a further diminution in its size. In congenital hernia, reduction by the taxis is always difficult, since the inguinal canal is unshortened, the stricture is generally tighter, and symptoms of strangulation occur earlier and more severely than in the acquired form of hernia. Although no untoward result followed, it is to me a matter of regret that the operation in this case was not earlier performed. It is, indeed, unfortunate when any unnecessary delay takes place, after a distinct failure to return the protrusion by some of the ordinary methods, as the possible advantages cannot, I believe, countervail the certain disadvantages which such a line of practice is calculated to entail.

The second case was that of a telegraph clerk, twenty-two years of age, a person of considerable intelligence. He was admitted to hospital on the 26th May, 1865, at ten o'clock in the evening, with a swelling in the right side of the scrotum, which had been ascribed to an enlarged testicle by his medical attendant. The true nature of the case was not recognized upon admission. It was supposed to be orchitis. I was not sent for, and until my ordinary visiting hour, ten next morning, I did not see the patient.

The history of the case is as follows:—The man stated that for a longer period than he could recollect—he believes from infancy—he had been subject to the frequent appearance of a swelling in the scrotum. The first occasion on which he remembers noticing it was when a boy of ten, while playing at ball, a large tumour suddenly appeared in the scrotum. On assuming the horizontal posture it vanished. The patient all the time, however, believed it was his testicle which was affected. He is intelligent, and appeared to know quite well what is meant by a rupture, but felt positive that he never had had anything of the sort. He had never worn a truss. Three weeks since the swelling suddenly showed itself in the scrotum, and he found himself unable, as before, to cause it to disappear. Believing the testicle had become inflamed he took some purgative pills and a seidlitz powder. Finding himself getting worse, and suffering from sickness, prostration, and hiccough, he obtained admission, on the 5th May, to a county infirmary. There, the patient's own statement as to the nature of his disease, was apparently adopted as the correct one—if the treatment he received is to be considered any criterion. Six leeches were applied to the part, and hot stupes. Some pills were also given to purge him, followed in the morning by a black draught. On the fourth day after his admission the swelling, the man states, suddenly

and spontaneously disappeared; the bowels were then acted upon for the first time; and he left the infirmary. Meanwhile he had suffered much from sickness and prostration, and had, moreover, been seized with hiccough.

The next appearance of the tumour was at noon on the day of his admission to the Belfast Hospital. Almost immediately afterwards he felt intensely sick, with a sensation of extreme prostration. He now sought further assistance, and a medical man applied a few leeches, and recommended him to go to hospital.

On the morning of the 27th, when I first saw the case, I found the right side of the scrotum distended by a tense globular tumour, as large as an orange, not tender on pressure, except at its neck. It could be traced up into the inguinal canal, which seemed slightly swollen. The testicle was undistinguishable; but the cord was to be felt running along the back of the swelling. Not the smallest impulse could be detected upon making the patient cough. The leeches applied before admission had caused free bleeding, which continued most of the night. The patient had not slept any in spite of a large opiate which had been given after admission. During the night, also, he had vomited a great deal, was suffering from constant nausea, and from great pain in the belly, which was tympanitic.

From the previous history and the present condition of the patient, although he quite repudiates the idea of having a rupture, I concluded that I had to deal with a case of strangulated congenital hernia, with probably a tense stricture demanding immediate relief. I decided that the best course would be to try the taxis, under chloroform, as soon as possible, and should moderate efforts then fail, to operate forthwith. As the case was by no means free from obscurity, I requested my colleagues to meet me in consultation, in one hour's time, and directed that the patient should, meanwhile, be kept in a warm bath.

After the interval just mentioned had elapsed, the patient, well wrapped up, was removed to the operating theatre. My colleague, Dr. Murney, the only one able to attend, agreed thoroughly with me in my view of this somewhat difficult case. Chloroform was administered, and the taxis was then tried. The stricture, however, seemed so tight, and the parts involved were so tense and unyielding, that the attempt had speedily to be abandoned, and before the patient had recovered from the influence of the anesthetic I proceeded to perform the operation. The intestine had now been prolapsed for twenty-six hours, and might be considered to have been strangulated almost from the very first.

I made an incision some three inches in length in the usual situation, carefully divided several layers of fascia, and exposed the hernial sac. This was now opened at the inferior part of the wound, as there appeared to be no prospect of reducing the hernia without doing so. About an ounce of light-coloured serum escaped, and between seven and eight inches of much congested small intestine were exposed. There was no omentum. Passing the forefinger into the neck of the sack a constriction was detected at the external ring, and divided. I now tried gently to pull down the intestine previous to returning it. I found that it was quite immovable, even when firm traction was resorted to. I then re-introduced my finger, and after passing it up the full length of the inguinal canal, which was dilated, and apparently unshortened, I reached with some difficulty, a second stricture at the internal ring. Through this, after considerable manipulation, I insinuated the tip of my finger, and found a stricture so tight that it felt just as if a piece of cord had been tied tightly around it. At such a depth from the surface, fully two inches and a-half, it was at once difficult and dangerous to attempt to divide the constricting ring. I did so, however, by passing a straight blunt pointed bistoury flatwise along the front of the finger, by which the edge was guarded, until the end had got beneath the ring. I then turned the edge directly upwards, and freed the constriction. I certainly could not have performed this part of the operation with either ease or security had I used any of the different forms of directors, or a curved knife, in place of a straight-bladed one.

The bowel was now easily drawn down, and the portion included in the stricture was, I observed, deeply sulcated. During the return of the intestine I saw the testicle lying exposed at the bottom of the scrotum, and contained in the hernial sac, thereby establishing the correctness of the diagnosis.

The evening of the operation I found my patient much easier. He was still inclined to vomit; and the abdomen, on examination, was found painful and tympanitic. Calomel and opium, and a fetid enema were ordered. Next day a new and very unusual symptom declared itself. The right testicle had become enlarged and exquisitely tender, and I subsequently ascertained that suppuration of the hernial sac had also taken place. On the seventh day after the operation I found it necessary to lay open the cavity of the tunica vaginalis, by extending downwards the original wound, and so give issue to four ounces of laudable pus. When this complication had been overcome the case proceeded satisfactorily enough.

The wound rapidly closed, and the testicle, which had been much enlarged, returned to its normal size. On the fourteenth day after the operation the patient was able to sit up, and was pronounced convalescent. Soon afterwards he left the hospital with his general health in every way improved. The local disease was cured, for, in consequence of the inflammatory action set up in the parts the inguinal canal had become blocked up or obliterated. There was no tendency to protrusion when he was discharged, and some months afterwards I had an opportunity of ascertaining that he did not require to wear a truss. A radical cure, in short, had been effected.

"Nothing," says Sir Astley Cooper, "but great want of attention can cause a hernia to be mistaken for an enlargement of the testis." Yet in this case that mistake, I believe, had occurred in three different instances. The patient's own statement that he had no rupture seems to have been adopted without dispute, and he was treated by purgatives and leeching, just as if the disease had been orchitis. The diagnosis of the case was certainly not altogether free from difficulty, for, in addition to the patient's own assertions that he never had had rupture, the absence of all impulse on coughing, and the comparatively small diameter of the neck of the sac involved some doubt. On the other hand, the history and the symptoms clearly showed the case to be one of hernia proper, and not hernia humoralis, or hydrocele.

This, like the majority of congenital herniæ, required the opening of the sac, and the circumstances here detailed show the necessity of the procedure. The contents of the sac were those most frequently found—omentum being rarely present in hernia into the vaginal process of peritoneum.

The importance of recognizing this form of rupture in the adult is very great. It was pointed out by Dupuytren, and subsequently by other observers, how frequently congenital herniæ were strictured at the internal ring, that the course run by such cases was very acute, and that, in consequence, relief must be promptly afforded. They occur, indeed, much more frequently than is commonly supposed, and, as in the two cases here described, are generally found upon the right side. In the majority of instances some portion of the vaginal process remains open for some time after birth, and it is found longer unclosed upon the right than upon the left side.

My third case was that of a man sixty-four years of age, one who had been a domestic servant, then for many years a soldier, and who is now a day labourer. He was admitted into hospital at

2 p.m., on the 31st January, 1866, with a strangulated inguinal hernia on the left side. He stated that he had been subject to rupture for thirty years. It first appeared as a small tumour in the groin, but afterwards gradually formed a large swelling in the scrotum. For many years he kept the protrusion up by means of a truss. This had recently been broken, and the imperfect contrivance of his own with which he replaced it, permitted the frequent descent of the bowel. On the day before his admission to hospital, at 10 a.m., the swelling formed in the scrotum, and he found himself unable to return it as usual. Very soon he began to vomit, and to suffer great pain both in the part itself and over the abdomen. Two medical men who saw him tried the taxis four times that evening, and once the next morning, without success. The symptoms increasing in severity, they recommended his admission into hospital. When I saw him, shortly afterwards, I found the left side of the scrotum distended by a tumour as large as a cocoa nut, measuring, indeed, nearly eight inches in length, by three and a-half inches in diameter. The neck of the tumour was thick, and the lower part of the inguinal canal was much distended. The spermatic cord could be traced running up the posterior surface of the protrusion, and the testicle indistinctly felt at its lower part. The swelling had the unusual hour-glass form, caused by a well marked constriction just below the external ring. Above this the inguinal canal was partially dilated by a globular tumour, much smaller than the tumour below the partial septum. Scarcely any impulse was communicated to the part when the patient was told to cough. He felt very sick, and complained of severe pain in the left inguinal region, which was extremely tender when pressure was made over the neck of the sac.

I directed the patient to receive a full dose of opium, and to be placed in a warm bath. While he was in the bath I tried the taxis for a short time without effect. The intestine had now been strangulated for twenty-six hours; and in order that no further time might be lost the patient was brought under the influence of chloroform about two hours after his admission. Very gentle efforts were made to reduce the tumour, but without effect, and my colleagues, then present, agreeing with me that relief should be given, the operation was at once begun.

An incision, commencing over the internal ring, was made for four inches downwards towards the scrotum, the subjacent layers of fascia were carefully divided, and the sac was exposed. Across it

ran a tense fibrous band corresponding to the hour-glass-contraction. This band was incorporated with the tissue of the sac, which was necessarily opened when dividing it. A little dark-red serum escaped, and some omentum protruded from the wound. I now tried to effect reduction, but failed, and on introducing the finger a little way easily discovered a second stricture at the internal ring, which was cautiously divided, the edge of the knife being merely pressed against the tense fibres of the ring, which readily gave way before it. The forefinger of the left hand was here also used as a director, which gives both confidence to the operator, and guides with certainty the motions of his knife. The omentum was now returned, and then the small intestine which came into view. The first portion of the intestine was but little congested, but the latter portion, which lay in the inferior division of the sac, and had been acted upon by both strictures, was purple-red. Upwards of three feet of the small intestine were replaced, inch by inch, in the abdomen before the sac was emptied. Five points of interrupted suture were then inserted in the wound, and the usual dressings were applied.

During the evening and night of the day after the operation the bowels acted three times very freely, and this in spite of the opium taken to prevent it, and throughout the entire convalescence the tendency to diarrhœa could only partially be kept in check. No other complication occurred during the after-treatment, save that the left testicle became slightly enlarged. The wound slowly healed, and was all but closed upon the twentieth day after the operation. The patient was then able to sit up, and is reported as being quite convalescent. He was discharged from hospital a few days afterwards, and recommended to wear a light truss.

This case, whose history is distinctly that of the ordinary inguino-scrotal variety of hernia, is unusual on account of the hour glass-contraction at the upper part of the sac. This peculiarity, Mr. Birkett alleges, is always associated with a congenitally open condition of the vaginal process of peritoneum. The great length of intestine, contained in this hernia, added very much to the danger attendant upon an operation, besides, the repeated trials of the taxis, and the diarrhœa which subsequently manifested itself, were most unfavourable features in the case. "Les selles promptes apres l'operation," says Vidal, "sont d'un mauvais augure." Notwithstanding this, and the man's previous habits, which had been much the reverse of temperate, the convalescence was not tedious.

The fourth case was that of an old man, eighty years of age.

He had been employed nearly his entire life either in whiskey-making or in whiskey-selling. For many years he was employed in the Belfast Distillery, and for upwards of thirty had kept a public house. When a young man he used to drink enormous quantities of whiskey, often as much as a quart, he said, fresh from the still, where the spirit is about sixty-five degrees over proof. He did not, however, consider himself a "great drinker," and until his present illness he had never, he said, been in the doctor's hands. He was admitted to hospital, with strangulated inguinal hernia of the left side, on April 7th, 1866, at half-past eleven at night. About four years ago he discovered that he laboured under rupture of the right side, and about two years later he found that a rupture had taken place in the left groin, the one that had become strangulated. The history he gave of himself was that, while in bed, between four and five, a.m., on the day of his admission, the gut on the left side protruded, and he was unable to return it. Within half an hour sickness and vomiting, with severe abdominal pains, set in, followed soon after by hiccough. All day he expected the tumour would go up again, and took, for the purpose of aiding its return, senna and salts, and two purgative pills, which, fortunately, he threw off. As evening came on the pain grew more severe, and the prostration, sickness, and vomiting became worse, while the stomach ceased even to retain cold water. Dr. Harkin, who was called in at ten p.m., now requested me to visit the case, and, as I found there was neither comfort nor convenience where the poor old man lived, I merely ascertained the nature of the case, and had him removed to hospital. On examining him there I found a small reducible hernia in the right inguinal region, while in the left there was a tumour in the groin, situated above Poupart's ligament, very tense, hard, and sensitive. The abdomen was tympanitic, and the pulse very weak. He complained of great pain in the scrobiculus cordis, was much depressed, and believed himself about to die. Nothing was retained upon the stomach, and the constant hiccough was very distressing. His case, considering his advanced age, the urgent nature of the symptoms, and the rapidity with which they supervened upon the descent of the hernia, was not a very hopeful one. The tumour more resembled a tightly strangulated femoral hernia than an inguinal one, which, however, it distinctly was. The poor man's condition admitting of no delay, he was at once placed in a warm bath, where, for a short time, I vainly tried the taxis. In the operating theatre, to which he was soon afterwards removed, I made

another attempt to reduce the hernia while the patient was under the influence of chloroform. This trial merely confirmed my previous impression that a very tight stricture, which the taxis was not likely to overcome, existed. Accordingly I determined at once to perform herniotomy. An incision through the skin and superficial fascia was first made commencing over the internal ring, and extending for three inches downwards towards the scrotum in the axis of the inguinal canal. Three different layers of fascia were divided, and a thickened sac, with some bands constricting it in the region of the external ring, was exposed. These bands were divided in the hopes of returning the protrusion without opening the sac, but as the stricture was evidently seated elsewhere, it was necessary to open the sac, which I did at the lowest part of the wound; and in doing so, so tense was it, I experienced the greatest difficulty in pinching it up between the blades of the forceps previous to incising it. About an ounce and a half of reddish serum escaped, and a single knuckle of small intestine was found to be the only protruded portion of the abdominal contents. The gut was greatly congested, and so sharply folded upon itself that one portion of its concave border, about the size of a sixpenny piece, was chocolate-brown in colour, and seemingly in a state not far removed from becoming gangrenous. On introducing the finger a very tight stricture was felt at the internal ring. I freed this to, what I considered, a sufficient extent, with the knife guarded, as before, but could not return the protrusion. I, therefore, reintroduced the bistoury, and made a second incision in the stricture, being afraid of the results which might follow any rough or protracted handling of the bowel. Still, notwithstanding the second incision, I found myself unable to reduce the hernia, and it was not, strange to say, till I had a third time cut through the tense fibres of the ring that I was able, without using violence, to replace the intestine within the abdomen. Four sutures were now introduced, and water dressings, and a bandage were applied. The patient, who was in an extremely low state from the combined effects of the disease and the operation, was cautiously removed to bed, and a glass of brandy and water, with thirty minims of laudanum in it, was administered to him.

On seeing the patient next morning, about nine hours after the operation, he told me he felt himself "quite a new man." The pain and sickness, and other symptoms, had almost completely subsided. He was ordered nutritious diet, and a glass of whiskey daily. On the fourth day the report states that he had slept the entire of the

previous night, and that the wound had almost completely healed by the first intention, save at the centre, from which there was a small oozing of pus. On the eighth day the bowels were opened naturally, and on the twelfth day after the operation the report is:—"The wound is completely healed, the bowels are acting daily, and the patient's general health is greatly improved." In short, he was perfectly convalescent, and left hospital, wearing a light truss, soon after.

The case just related is, in several respects, remarkable, especially when we consider the patient's very advanced age. Other surgeons may have had occasion to operate on persons as old, or even older; but similar occurrences must be rare. Mr. South, of St. Thomas' Hospital, had a case under his care in which a successful result followed an operation for inguinal hernia in a man eighty-two years of age. Independently of my patient being ten years beyond the prescribed limit of life, his previous habits had not been of a nature much to conduce to a satisfactory termination of so grave an operation. He had, in fact, been very intemperate; and, latterly, lived in extreme poverty. It is very unusual to find in one whose tissues must necessarily be relaxed by great age a hernia become strangulated with such great rapidity and severity, and it justified the inference, afterwards borne out during the operation, that the stricture was a tight one, as it proved necessary to use the knife to free it, three different times, before the rupture could be reduced. To the circumstance that no time was lost in giving relief after assistance had been called in, and to the fact that the taxis was very sparingly employed, I ascribe, in a great measure, the very successful issue. No efforts at taxis, indeed, however well directed, would have forced the intestine through the stricture, and such efforts would, in all probability, have resulted in irreparable damage to the highly-congested gut. The operation was performed about an hour after the patient's admission to hospital, and about twenty hours after the first descent of the bowel. Three-fourths of the wound, which, as before stated, had healed completely on the twelfth day, were as perfect an example of immediate union as could be desired. This is a rare mode of union under any circumstances, but especially so taking into account the age, and other antecedents of the patient.

I would only say, in conclusion, that in none of these four cases was the opening of the hernial sac attended or followed by any of those serious consequences which some surgeons think there is so much reason to dread.