OBSERVATIONS ON SOME OF THE COMPLICATIONS
OF HERNIA, AND ON OBSTRUCTION OF THE
INTESTINE WITHIN THE ABDOMEN.¹

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PART FIRST.

OBSERVATIONS ON SOME OF THE COMPLICATIONS OF HERNIA.

I trust I need not offer an apology for bringing the following cases
before my professional brethren.

Hernia, from the suddenness of its appearance; the dangerous
symptoms which may quickly follow; the rapidity with which it may
destroy life; the delicacy of the operation which it often requires; the
obscenity in which it is sometimes involved; and the beautiful illus-
tration which it affords of the power of our art in arresting the ravages
of death—ever has been, and ever will be a subject of deep interest to
the surgeon. It is not, however, my intention to enter at large upon
the intricate subject of hernia, but merely to offer a few observations
upon some of its complications which have fallen under my notice.

I. Strangulated Hernia—Apparent Reduction—Symptoms
Unabated. Cases occasionally occur, in which, after an inguinal
hernia has been apparently reduced, symptoms of strangulation con-
tinue to increase, and lead to a fatal termination. This may be owing
to two causes; either to the return of the intestine to the upper part
of the inguinal canal, and not into the abdomen,—constriction, there-
fore, continuing at the internal ring; or to the return of the sac, to-
gether with the hernia constricted by it,—hernia reduced en masse.
Of both of these varieties I am enabled to offer illustrations, for which
I am indebted to my friend Mr. Luke.

Case I. Strangulated Inguinal Hernia Reduced en Masse—
Death. A surgeon was called to a case of strangulated hernia, with
well marked symptoms. The taxis was applied, the tumour disap-
peared, and the symptoms subsided, but returned in a few hours, and
the patient died. Mr. Luke, who conducted the dissection, found a
portion of mortified gut in the upper part of the inguinal canal. The
hernia had been returned through the lower ring, together with its
sac, at the neck of which the stricture was situated.

Case II. Strangulated Inguinal Hernia Reduced en Masse—
Death. A labourer was admitted into the London Hospital, who was
the subject of strangulated hernia. The hernia was relieved by the
dresser, and all the symptoms subsided. The man did well. A fort-
night afterwards, however, the hernia again descended, and again be-
came strangulated. Upon this occasion the man forcibly returned it
himself; the symptoms, however, became aggravated, and he died.
Dissection showed that the hernia, with its investing sac, had been
forced through both rings, the stricture still remaining upon it, and

¹ The substance of two papers read before the Physical Society of Guy's Hos-
pital on March 10, 1849, and January 11, 1851.
seated at the neck. The whole had passed between the peritoneum and abdominal muscles, in a direction towards the bladder.

II. Intestine Adherent to the Sac. Where constriction takes place to such an extent as to excite inflammation, albumino-fibrine becomes effused, and a false membrane is formed, by which the intestine is glued to the sac. In these cases, there is very little if any serum secreted, and there is great danger, in operating, of wounding the gut; hence it is highly important to ascertain when this has taken place. Much may be learnt by pinching up the sac prior to opening it. If the sac is not adherent, it will feel thin between the fingers, and the contents will be felt to glide away; if it be adherent, the medium between the fingers will be thicker than can be supposed to arise from sac only, and no gliding will be felt. Cases III and IV, which were operated upon by Mr. Luke, which came under my observation, and which he has kindly permitted me to publish, are cases in point.

Case III. Strangulated Inguinal Hernia on the Right Side—Intestine Adherent to the Sac—Operation—Recovery. A pavior, aged 55, subject to pulmonary disease, was admitted into the London Hospital on January 8th, 1828, under Mr. Luke. He had been subject to hernia for three months, but had never worn a truss. It had descended during a severe fit of coughing three days previously, and he had been unable to return it. The hernia was situated in the right groin; it was small, tense, painful on pressure, and devoid of impulse on coughing. Vomiting and hiccup were urgent, but there had been no motion. The warm bath and taxis being unavailing, Mr. Luke performed the operation. After dividing the integuments and some fasciae, a membrane was brought into view, the nature of which was rendered obscure by numerous vessels running upon it in a circular direction; by pinching up a fold of it, however, between the finger and thumb, a globular body, evidently the intestine, could be felt underneath it. It was, therefore, cautiously opened, and proved to be the sac in a thickened state, having the intestine closely adherent to its interior by bands of recent lymph, which were most numerous, and most thick about its neck. These were carefully separated with the finger. This stricture, which was very tight, and situated at the inner ring, was divided; a knuckle of small intestine (of dark colour, from congested vessels) was returned into the abdomen, and the wound was closed in the usual way. The symptoms gradually subsided, and the recovery was rapid.

Case IV. Strangulated Inguinal Hernia—Circular Direction of the Vessels of the Sac—Adherent Intestine—Operation—Recovery. D. Lazarus, aged 62, was admitted into the London Hospital, under Mr. Luke's care, on the 11th of February 1833. He had been seized, on the 8th, with violent cough, after which

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1 I hesitated much before alluding to this complication, after the able paper upon the subject by Mr. Luke, in the twenty-sixth volume of the Medico-Chirurgical Transactions. As, however, these remarks were penned more than fourteen years ago, long before that paper appeared—as I am indebted to Mr. Luke for acknowledging it—as it is a very important complication of hernia—and as, from cases subsequently published by Mr. Luke in the Medical Gazette, it would appear not to be so rare as some surgeons suppose, I have thought it best to let it remain as originally written.
he discovered a tumour in the right groin, which soon became painful. Towards evening his food returned; he was frequently sick, and had hiccups occasionally. These symptoms continued unabated at his admission, when a small globular tumour was visible in the right groin which was painful on pressure, but had no impulse on coughing; there were also pain and tension of the abdomen, and the bowels were obstinately constipated. After the usual attempts had been made to return the hernia, without success, the operation was performed by Mr. Luke. The integuments and fasciae being divided, the sac was exposed. Its vessels were circular, and it had strikingly the appearance of intestine; and it was surrounded by cellular tissue and fat, which had very much the aspect of omentum. When the sac was pinched up, it appeared thick; the gut, upon the most careful examination, could not be felt to glide from underneath it, which led Mr. Luke to express an opinion, that the intestine was adherent. The part of the sac which appeared the thinnest was then carefully punctured towards the pubal side, when one drop of bloody serum escaped. Upon introducing a director, the intestine was found universally adherent to the sac (except where it had been opened), by red and easily separable adhesions. The very tight stricture having been divided at the internal ring, the gut, a fold of the ileum, in a state of engorgement, was returned into the abdomen. Two hours after the operation the bowels acted, the symptoms soon went off, and nothing untoward occurred.

Remarks. It is difficult to imagine a more embarrassing case than the last of these, or one in which the intestine was more likely to have been wounded, as the usual guides in doubtful cases were entirely absent. The bowel could not be detected when the sac was pinched up; and, had the latter been opened at the lower part, the spot usually selected, the gut could hardly have escaped; as the only drop of fluid was fortunately placed at the part where the opening was made. Although, upon pinching up the sac, the bowel could not be felt, the precaution was valuable; as I think it probable that it separated the adhesions at that part, and, if so, was instrumental in preserving the intestine from injury.

The direction of the vessels has been laid down as a guide to distinguishing between the gut and the sac; the vessels of the former, it is said, run in a circular, the latter in a straight direction. In the cases alluded to above, the vessels of the sac were as circular as those of the intestine; and consequently no assistance was gained from that source.

III. Mortification of the Bowel simulated by the Effects of Tobacco. In some irreducible herniae, especially in those irreducible from bulk, tobacco enemata have been occasionally used with success. They do not, however, always succeed; and when they fail, are injurious, as they tend to perplex the case, and, by greatly diminishing the powers of life, give rise to the idea that mortification has commenced. This is no mere supposition, but is illustrated by the following case.

Case v. Large long-standing Hernia—Strangulation—Collapse from the Effects of Tobacco—Operation—Recovery.

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A man, aged 55, the subject of hernia thirty years, was admitted into the London Hospital under the late Mr. Headington, the rupture having slipped from under his truss an hour previously. The tumour was large, tense, and painful. He was bled, and was put into a warm bath; by which means syncope was twice produced, but the rupture could not be returned. The pulse was at that time full and hard, and the tongue coated. The tobacco enema was tried, and repeated, after which the pulse became feeble, and his strength prostrated. The taxis was again unsuccessful. While under the tobacco influence, Mr. Headington visited him, thirty-two hours from the descent of the hernia. His countenance was much altered; it was shrunken, pale, and haggard; the pulse was small, fluttering, and intermittent; the tongue brown and dry; there was great thirst, and indifference to surrounding objects; and, although the abdomen was still tense, the tumour was flaccid, and could not be returned. Mr. Headington thought that mortification of the gut had ensued, that the case was hopeless, and that the man was in articulo mortis. Mr. Luke, who had witnessed the case throughout, suggested that the prostration did not exist prior to the use of the tobacco, and was referable to it. Upon this suggestion, Mr. Headington performed the operation, and with success.

Remarks. Upon looking to the result of this case, there can be no doubt, although the symptoms much resembled those of mortification of the bowel, that the depression, under which the patient laboured, was owing to the tobacco. Nor can there be any doubt about the propriety of the performance of the operation; yet, had the operator followed his own opinion, he would have left the patient to his fate; the effect of which must have been delay, with the probability of a fatal result.

I may here allude to a case that came under my care some years ago, but the particulars of which have not been preserved, in which mortification of the bowel (in a gentleman, the subject of hernia, just returned invalided from India) was, in some degree, simulated by the collapse of jungle fever. He died, but I had no means of obtaining a post-mortem examination.

IV. PASSAGE OF FOREIGN BODIES THROUGH AN IRREDUCIBLE HERNIA. Although persons, with irreducible hernia, may pass many years without inconvenience, they are, nevertheless, in constant danger, when substances difficult of digestion, and irritating in their nature, are taken into the alimentary canal. A plum-stone, for instance, or more especially the stone of a peach, if accidentally swallowed, might, in such a person, be attended with very serious inconvenience. It is astonishing, however, what miraculous escapes sometimes occur. In proof of this I now refer to the gill-bone of a fish (?) (Fig.1); it was very hard and sharp, and not only escaped being acted upon by the gastric juice and dissolved, but actually passed through an irreducible inguinal hernia, not only without any injury, but without the patient’s knowledge; the first intimation which he had of it being a pricking sensation at the verge of the anus, from whence he withdrew it.
Persons, however, are not always so fortunate; for Sir Astley Cooper mentions the case of a boy, aged 13, admitted into St. Thomas's Hospital for irreducible scrotal hernia. He had an accident and swallowed a pin. Five weeks afterwards, the hernia began to swell and be painful. A poultice was applied; an abscess formed and burst, and, at the orifice where pus was discharged, the point of a pin projected; it was easily removed, but a fistulous orifice remained.  

V. Descent of the Bowel after Operation. If the hernia has been of long standing, and the rings have, in consequence, become enlarged, the hernia is liable to come down after the operation, and again become strangulated. Thus, in the patient mentioned in Case v, on the tenth day from the operation, the hernia came down, and was attended with pain and vomiting; the man was leached, and put into the warm bath, when the symptoms went off, and the bowel gradually returned; so that by the thirteenth or fourteenth day it was entirely within the abdomen. On the thirty-ninth day from the operation, when he was convalescent, and about to leave the hospital, the bowel came down more than ever; pain, vomiting, and hiccup immediately supervened. He was again put into the warm bath, and bled to twenty ounces, by which means syncope was induced, and in a few hours the intestine was returned; shortly after which the bowels were opened; the pain, sickness, and hiccup, subsided, and he had no relapse. It is a curious circumstance, that the hernia, twice descending, should each time have threatened strangulation. The first time, as he was purged, its descent was probably owing to the action of the abdominal muscles; but for the second descent, there did not appear any adequate cause, as it occurred while he was sitting quietly in a chair. In another case that came to my knowledge, the strangulation was more complete, the operation was a second time performed, but the case was, notwithstanding, fatal.

Cases of this kind show the necessity for great caution in regulating both the diet and action of the bowels after this operation, and the absolute necessity of perfect rest in the horizontal position. Opium also, as recently advised by Mr. Cock, may, in these instances, be sometimes beneficial.

VI. Double Hernia—Strangulation. It is not, I believe, very common, except in the inguinal regions, for two ruptures to exist in the same individual. A person may, however, be the subject both of an inguinal and of an umbilical hernia. Symptoms of strangulation may occur, and a doubt may arise to which hernia the symptoms are referable. Of this I am enabled, through the kindness of my friend Mr. Luke, to offer an illustration. I will first, however, advert to a case, detailed by Sir Astley Cooper, of a woman, admitted into Guy's Hospital with three herniae; one at the navel, one at the right, and the other at the left groin. The umbilical hernia, and that in the left groin, were irreducible; that at the right groin felt extremely sore on pressure. A doubt arose as to which was the rupture requiring the operation; but, as the symptoms were not very urgent, the opera-
tion was delayed. In the mean time the woman died. The tumour in the right groin was found to be an enlarged and inflamed absorbent gland, lying over an empty hernial sac. In the left groin was a portion of inflamed intestine, and at the navel was an irreducible omental hernia, which had suppurred. The intestines were adherent to each other; pus was interposed in some places, and a considerable quantity had been effused into that part of the omentum which was contained in the abdomen. Sir Astley observes, "this woman chiefly complained of pain in the right groin; and, if the operation had been performed, this would have been the tumour laid open".¹

**Case VI. Inguinal and Umbilical Hernia—Strangulation**—Operation—Recovery—Sudden Death five weeks afterwards. Mr. Luke was called to a female who was labouring under an inguinal and an umbilical hernia, with symptoms of strangulation. Both ruptures were very tense and painful, both were devoid of impulse on coughing, and both were irreducible. The former was small, and was apparently contained in the inguinal canal; of the two it was the most tense, and could be obscurely felt though a thick layer of fat; he was hence induced to operate upon this one. He found, upon opening the sac, a portion of small intestine tightly strangulated; he divided the stricture, and returned the bowel. Relief followed, the symptoms subsided, and the woman perfectly recovered. While, however, in apparent health, she died suddenly five weeks afterwards.

**Remarks.** From the success which attended the plan adopted in this case, have we not a guide in future, should strangulation show itself in a person the subject of double hernia? May we not conclude that the hernia, which had existed the longest, and is the most tense, should be the one first subjected to operation. It is possible, however, that the rupture which had existed the longest may not be the most tense. In that case, I would be guided by the tension of the duration; for I am inclined to think that, had the duration of the hernia in the preceding case been reversed, the inguinal would have been the one first strangulated, as there is more of tendinous structure, and therefore there is likely to be more compression in this than in the umbilical region.

**VII. Unusual Direction of a Hernia.** Embarrassment sometimes arises from the peculiar and unusual course which a hernia follows. Thus it is well known, that femoral rupture, by tilting over Poupart's ligament, sometimes simulates inguinal hernia. Inguinal hernia also, when direct, is sometimes placed underneath, sometimes between the spermatic vessels. The peculiarity to which I am about to allude, is not, I believe, generally known; it is the passage of the hernia, after presenting at the internal ring, upwards and outwards towards the anterior superior spinous process of the ileum, instead of descending along the inguinal canal. For a knowledge of this fact, I am again indebted to Mr. Luke. This peculiarity occurred in the preceding case (VI). On exposing the hernial sac, by cutting the tendon of the external oblique, it was observed to proceed from below, upwards and outwards towards the spine of the ilium, contrary to the

¹ Cooper, Sir A. P. Treatise on Hernia, Part 1, p. 27.
course of the inguinal canal. From this arose a difficulty in getting at the stricture, which was surmounted by an assistant depressing the gut towards the pubis, and thus exposing the seat of stricture. There was but little difficulty in returning the gut, when the stricture was divided. Mr. Luke also conducted the post-mortem examination of a case where the surgeon, after repeated efforts (having opened the sac), had failed to return the gut into the abdomen. The dissection explained the cause of the difficulty. The sac was found, after passing through the internal ring, to pass upwards between the muscles, as well as in its usual course through the inguinal canal to the pubis. The internal ring, therefore, might be said to be opposite to the centre of the sac. The embarrassment, then, arose from the gut, when pressed at the pubal extremity of the sac, being received into that which might be called the ilial extremity, instead of being returned through the ring into the abdomen; and, on remission of pressure, returning to its former position at the pubis. From the case not being understood at the time of operation, the hernia remained unreduced.¹

VIII. PERITONITIS COEXISTENT WITH HERNIA. When a hernia becomes strangulated, inflammation is quickly set up in the peritoneal coat of the bowel, and sometimes spreads with rapidity through the entire peritoneum. Peritonitis and hernia are, therefore, very frequently combined. The former, however, is usually subsequent to, and caused by the latter; but it occasionally happens, that peritonitis occurs in a subject of hernia, in which the hernia is in no way implicated as a cause. By the combination of the two, however, much obscurity may arise. Of this we have an illustration in the following case.

CASE VII. REDUCIBLE INGUINAL HERNIA ON THE LEFT SIDE—PERITONITIS—ULCERATION OF THE MUCOUS AND MUSCULAR COATS OF THE BOWEL—DEATH. A man, aged 60, after having been exposed to wet and fatigue, and after having been unwell for a fortnight, was seized with rigors at irregular intervals, constipation of the bowels, and pain in the abdomen; but, the day before he came under my care, he had had three motions, which were described as scanty, and pale coloured. He was bled, leeched, and treated with calomel and opium, and aperients. At my second visit, the pain had been somewhat relieved; and, upon close examination, I discovered a tumour in the left groin, which he had never mentioned, but which he now stated to have existed eight years. It was returned easily, and with a gurgling noise, into the abdomen, when gently pressed. The tumour soon reappeared, the symptoms increased in severity, and he died the following day.

On inspection, the tumour in the left groin was found to consist of an old hernial sac, containing a portion of omentum, not gorged, and some serum. There was general peritonitis: about a quart of seropurulent fluid was found in the abdomen, with flakes of lymph, by which several of the convolutions were glued together. The jejunum

¹ See, upon this point, observations by Mr. Cock in Guy's Hospital Reports, new series, vol. v.
and upper folds of the ileum were very much distended with flatus. Six or eight inches of the latter intestine towards the cæcum were more flaccid than the rest; at one spot, ulceration had taken place through all the coats, but the contents of the gut had been prevented from escaping by adhesion to the surrounding parts, which had, however, become so softened, that yellow fæces escaped upon the least pressure. Several small vascular ulcers were seen in the mucous membrane of the lower part of the ileum.

Remarks. From the facility with which the hernia was reduced, and the entire absence of anything like constriction, either upon the intestine or omentum after death, it is clear that there was no strangulation, and that the peritonitis did not arise from that source. I think it was entirely unconnected with the hernia; and, from the patient suffering from rigors, pain in the bowels, constipation, and sickness, as well as from the ulcerated state of the intestinal mucous membrane, I believe that it was of a chronic character, and had been going on for some time.

I should have remained in complete ignorance of the hernia, had I not accurately explored the abdomen. This points out the necessity of doing so in all cases of abdominal inflammation—a custom which I generally adopt. From a conviction, however, that this was a clear case of peritonitis, I did not suspect the hernia, nor detect it until my second visit. The delay was in this case of no consequence; had, however, the peritonitis masked a hernia, it might have been otherwise, and a few hours might have proved very important.\(^1\)

IX. Reducible Hernia in One Groin—an Irreducible Tumour in the Other—Peritonitis. In the preceding case, the reducible condition of the hernia left no doubt as to the propriety of treatment. The one to which I will now advert was, however, involved in great obscurity, and caused at the time much interest.

Case viii. Reducible Hernia in left Groin—Irreducible Tumour in Right Groin—Symptoms of Strangulation—No Operation—Death from General Peritonitis. A Welshman, aged 80, was brought into the London Hospital. He was unable to speak a word of English; but, by means of an interpreter, it was ascertained that he had been the subject of hernia in both groins sixteen years, which were easily reducible. Three weeks before his admission, he perceived a swelling in his right groin, which he could not return. It appeared suddenly, while he was in a passion. Upon examination, a hernia, easily reducible, was detected in the left inguinal region; and in the right groin there was a tumour, the size of a small walnut, circumscribed, unyielding, very hard and painful, the pain being increased on pressure. He had had a slight motion on the morning of admission, but none before that for three days, and none before that time for ten days. There was no impression made on the tumour by coughing; the abdomen was very tense, and painful on pressure; there was vomiting, which had existed eighteen days, and hiccup at times; the countenance was expressive of anxiety, the tongue dry and red,

\(^1\) Vide Case xi.
the pulse small and wiry. Leeches were applied; he was put into the warm bath, and took calomel and opium in small doses, with salts and peppermint. No impression was made upon the tumour, but the bowels were freely opened. A consultation was held: the case was regarded as one of omental hernia, but the bowels having been freely opened was considered as a sufficient reason for not performing any operation. The bowels continued to act; but the vomiting, hiccup, and other symptoms increased, and the patient died fourteen days after admission.

Dissection. The peritoneum covering the abdominal parietes was very much inflamed, as was also that covering the intestines. Four ounces of serous fluid, with flakes of lymph, were found in the cavity of the abdomen. The folds of intestine were glued together by bands of lymph, easily separable. The hernia on the left side had returned, and appeared to have consisted of a portion of the descending colon, part of which was adherent to the internal ring. The tumour on the right side appeared to consist of the remains of an old hernial sac. The fold of peritoneum constituting this sac was very much thickened, and contained a substance resembling cartilage.

Remarks. Was not the peritonitis in this case independent of the hernia? It is clear from the post-mortem examination, that an operation could have availed nothing; yet it is questionable, whether the bowels having been opened was a sufficient reason for not operating. It is true that the bowel could not have been completely obstructed; but the omentum might have been imbedded in the sac, and might have been the cause of the symptoms. An operation in that case might have been attended with benefit. With the exception of constipation, the symptoms of strangulation were strongly marked; there were vomiting, hiccup, tension both of the tumour and abdomen, pain increased on pressure, and a want of impulse on coughing. Under these circumstances, a surgeon would, I think, be justified in examining the nature and state of the tumour.

X. Strangulated Hernia subsequent to Peritonitis. The complication to which I shall next allude, is one of a very distressing and serious nature. It is the occurrence of strangulated hernia, in a person who at a distant period had been the subject of general peritonitis, which had terminated by adhesions of the intestinal convolutions. Of this the following is a melancholy example.

Case IX. Strangulated Scrotal Hernia—Former Peritonitis—Operation—Descent of several adherent convolutions which it was impossible to reduce—Death in twenty-seven hours. In a strong muscular man, aged 44, who had been from birth the subject of hernia, which was easily reducible, but for which he had never worn a truss, the rupture one morning descended, and he could not reduce it; he therefore applied for advice at the London Hospital. There was a large tumour on the right side of the scrotum, very tender to the touch; there was some tension of the abdomen, and he had had no motion for twenty-four hours. He was bled and put into the warm bath, and the taxis and tobacco enemata were tried, but all without avail, and without making any impression on the tumour. The symp-
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toms increasing in severity six hours after these means were resorted to, the operation was performed by the late Mr. Harkness. Upon opening the sac, the hernia was found to consist of a fold of small intestine, the surfaces of which were adherent by bands of lymph of long standing. No sooner was the stricture divided (which was principally at the outer, although there was slight constriction at the inner, ring), than fresh convolutions, also adherent, descended, owing to the distended and tympanitic state of the abdomen. Notwithstanding well-directed efforts of twenty minutes' duration, these convolutions could not be returned; and so greatly had the tumour augmented, that the integuments would not cover it; the bowel was therefore protected by lint dipped in oil. Great pain, both of the intestine and abdomen, followed, together with vomiting and hiccup; the gut which protruded became very vascular and thickened, and in some parts covered with false membrane, while, in others, it was even granular. Great depression of the system followed, and the patient died twenty-seven hours after the operation.

Dissection. The passage from the sac to the abdomen was free. The peritoneum generally was highly vascular; the convolutions of the intestines were much congested, very much inflated, and everywhere united together by bands of long standing; four of these united the folds inclosed in the sac.

Remarks. As the hernia was of large size, it would have been much better to have divided the stricture without opening the sac, as advised by several authors, and especially by Petit and Mr. Aston Key, and more recently by Mr. Luke. Had this plan been adopted, it is probable that life would have been preserved; at all events, much distress, both to patient and surgeon, would have been avoided. Had there been, instead of a large hernia, only a slight protrusion until the stricture had been divided, and the sac opened, and then a fresh descent of the bowel had ensued, which it was found, partly from adhesion of the convolutions, and partly from the tympanitic state of the abdomen, impossible to reduce—what should have been done? The only alternative seems to be puncturing the gut; by this means the flatus would be got rid of, and the bowel so far diminished in size as to allow of its being entirely covered with the integuments, if not passed into the abdomen.

XI. Enlargement of the Inguinal Glands coexistent with Strangulated Femoral Hernia. In femoral hernia, obscurity may arise from enlargement of the inguinal glands. The hernia may become strangulated, and may subsequently return into the abdomen; a tumour and some symptoms of strangulation may nevertheless remain, as in the following case, which was rendered still more embarrassing by other disease.

Case x. Abortion—Uterine Hæmorrhage—Enlargement of the Inguinal Glands—Strangulated Femoral Hernia—Disease of the Stomach and Cholera. I was requested by my

1 See an interesting case in point by Mr. Else, Medical Observations and Inquiries, vol. iv, p. 355.
colleague at the London Dispensary to visit, on July the 14th, 1833, Mrs. M. A., aged 31, who had been admitted as a patient under his care on the 7th, to whom I am indebted for the following particulars. About seven weeks previously, she had miscarried; flooding had supervened, and continued some weeks, but was stopped in two days by rest and sulphuric acid. On the 13th, finding herself quite well, she went out, after which she was seized with incessant vomiting; the matter vomited amounted to five or six quarts. It was chiefly a turbid fluid, possessing a strong smell, much like that perceived upon opening the abdomen of subjects recently dead, and annoyed her greatly in passing. She complained of pain across the abdomen, which seized her at very short intervals, and then went off; her pulse was 132 and feeble; her countenance anxious. She had had no motion since the attack. On inquiry, it appeared that she had a small tumour on the inside of the left thigh; it was entirely devoid of pain, and had not the least impulse on coughing; it was very irregular, and had much the feel of an enlarged gland. There was no tension of the abdomen, nor the least abdominal pain on pressure; no hiccup. Her voice had the peculiar sound of cholera, and the depression appeared to me to be of that character. Taking all circumstances into consideration, I was impressed with the idea, that either there was not hernia, or that, if there was, the contents of the sac had returned. I suggested the administration of salts and peppermint water, to which in the evening calomel and opium were added.

On the 15th, we found that the vomiting had continued, and that she had passed neither motion nor urine. Her features were contracted and of lead colour, the fingers bent, the nails blue, the extremities cold, and the pulse imperceptible. It was the decided impression of two physicians who saw her, and of myself, that the case was one of Asiatic cholera. The effervescing mixture, with ammonia, was given, and brandy and spiced beef-tea administered; but all to no purpose, as she died at five o'clock in the afternoon.

Dissection. Putrefaction was fast advancing. The abdomen was very much distended; no flatus, however, escaped upon opening it. The stomach and small intestines, to within the lower third of the ileum, were thickened and very considerably distended with a light drab coloured fluid, which, upon removal, half filled a bucket. The mucous membrane of the stomach was very vascular, and in some parts covered with an apparent false membrane, which separated by maceration. In two places there were large black spots, which at first looked like sloughs; but, upon closer inspection, the membrane did not appear destroyed. It was, however, far from healthy; it was rough, devoid of villi, and in places studded with spots, some of black and others of yellow colour. Upon examining the left groin, there was discovered a small hernial sac devoid of contents, covered by one of the inguinal glands, much larger than common (Fig. 2). Lying just above the inner ring, was a portion of the ileum, about one-third from its termination in the colon; part of the calibre of this was of a deep purple colour, and appeared as if it had been the subject of strangulation (Fig. 4). Below the constricted part, both the small and large intestines were empty. The other abdominal viscera were healthy.
COMPLICATIONS OF HERNIA.

Fig. 2. Shows an inguinal gland enlarged, and lying over the hernial sac.*

Fig. 3. A posterior view of the former preparation, showing the opening of the sac and the femoral vein upon its inside.

REMARKS. The first point which attracts attention in the preceding case, is the number of maladies under which the patient laboured, viz.: abortion, uterine haemorrhage, enlargement of the inguinal glands, femoral hernia, disease of the stomach, and cholera.

We are naturally, in the next place, led to ask, which of these last was the primary affection? In an illness of little more than forty-eight hours' duration, so soon attended with depression of the whole system, it is difficult to solve this question. It is not improbable, that chronic disease of the stomach might have been going on unnoticed for some time, by which perhaps she was rendered more liable, upon exposure, to be attacked by cholera; and that the great straining, which attended the effort to vomit, might have forced down the hernia. The hernial contents—a portion of small intestine—had become in some degree strangulated, as was evident from the engorgement of the intestine at one spot.

It may, in the third place, be asked, whether the intestine was down at the time that I made an examination of the tumour? This it is difficult, if not impossible, to determine. The post-mortem examination induced me to think that it was not, and justified, I think, the course which I adopted; the inguinal glands were evidently augmented; the tumour was quite as large after death as before; and the portion of intestine strangulated was found within the abdomen, and, although congested, its structure was not at all disorganized. It is, therefore, probable that the constriction was not of long duration.

* The accompanying wood-cuts have been executed by Dr. Westmacott, of King's College, from preparations in my possession.
That this woman was suffering from the influence of cholera, I infer from the urgency of the vomiting—the peculiar appearance of the fluid, and the immense quantity of it accumulated, with which the greater part of the small intestines was completely filled, notwithstanding the large quantity ejected—the peculiarity of the countenance and voice—the loss of pulse—the scantiness of the urine—the lividity and shrivelled state of the fingers and nails—and the conviction on the minds of three medical men, that such was the nature of the affection. Although diarrhoea, one of its characteristic symptoms, was absent, that does not prevent the disease from being cholera, as I believe that unequivocal cases of cholera have occurred without it; and the constriction upon the intestine sufficiently explains its absence in this case.

Since cholera has been raging in this country, it has been observed that many chronic maladies have apparently terminated fatally in cholera collapse. I have related in the Medical Gazette a case of long-continued hæmorrhage from the bowels, which was fatal in this way. I have since seen a case of acute gastritis, with slough of the stomach, produced by oil of vitriol, which was attended, previously to death, with many cholera symptoms; and more recently still I have narrated in the same periodical an extraordinary case of abdominal hæmorrhage, which was supposed to have been one of cholera; and I have alluded to a case reported to the Registrar-General as one of spasmodic cholera, but which, upon post-mortem examination, proved to have been hæmorrhage into the stomach from rupture of the gastric artery; but I have never before seen symptoms of cholera in conjunction with hernia.

XII. Strangulated Femoral Hernia—Rapid Collapse, supposed to be Cholera. Strangulated hernia, especially occurring in aged people, is frequently unattended with much pain; and is very likely, therefore, unless the surgeon be on his guard, to be overlooked. More than one case of this sort has come to my knowledge; and of this the following is an example.

Case xi. Strangulated Femoral Hernia—very copious Bilious Vomiting—sudden Collapse—Death in Thirteen Hours. A woman, aged 63, very sallow looking, thin and feeble, who had several times been under medical care for severe bilious attacks, accompanied with much exhaustion, and twice for hæmatemesis, sent for a medical man in haste one morning about eight

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1 Medical Gazette, vol. xiv, p. 137.  
2 Ibid. vol. xlii, p. 981.
o'clock. She was apparently quite well the preceding night, and playing at cards in high spirits, although she had had occasional pains in the back and lower part of the abdomen, and felt sick; but these symptoms went off, and she made a hearty supper. She was seized in the night, and again about six in the morning, with violent vomiting, having brought up nearly a chamber-potful of green bile. She was generally exhausted, sensible, but able to speak only in a whisper. The face, particularly the nose, and the hands (especially the right, which she had out of bed), were quite cold. She had cramps in the legs; no pain in the abdomen. She had had one motion the preceding day; and she remarked how regular her bowels had been lately, and that without medicine. She was naturally of costive habit. No urine had passed. Ten grains of calomel were given immediately; sulphate of magnesia and sesquicarbonate of ammonia, with peppermint-water, were ordered every four hours; fomentations were applied to the calves of the legs, and beef-tea and brandy administered.

At 2 P.M. she had been several times sick; the matter now rejected was said to have been very offensive when passed, but was without smell when shewn to the medical attendant; it was of the colour and consistence of thick gruel, with a reddish-brown tinge. She was in a state of perfect collapse; there was no pulse at the wrist; the nose, face, and hands, particularly that out of bed, were very cold; there were violent cramps in both legs, which were drawn up in knots. A scruple of calomel was given immediately; half a drachm of aromatic spirits of ammonia was ordered to be taken every four hours; friction with mustard was applied to the legs; and the beef-tea and brandy were continued.

At 4 P.M. she seemed decidedly better. She was quite sensible and cheerful; had been sick only once; and had passed some urine, but in no great quantity. The abdomen was not distended, or tender on pressure; her skin, to the hand, was quite cold, although she said that to her it felt warm; there was no pulse at the wrist, but the cramps were gone.

She sank soon afterwards, however, and died at 7 P.M., thirteen hours from her first seizure. Upon finding her dead, the possibility of hernia crossed the surgeon's mind, and he examined the groins, when he perceived in the right a swelling of small size, equal, and very tense, pressure making no impression upon it. Upon making inquiry if she had been afflicted with rupture, her friend, who, singularly enough, was the subject of that malady herself, replied in the negative; and said that the patient had often congratulated herself that she was not thus affected. She was a woman of very weak digestion; and it was ascertained that she had lately been eating freely of pork, veal, and rabbit-pie.

Dissection, seventy-five hours after death: weather muggy, but cold. Putrefaction was commencing. The tumour was still very tense. Nothing was wrong in the chest. The liver was pale; there was some green bile in the gall-bladder. There was central contraction of the stomach; the intestines generally were slightly red; the spleen remarkably small and black; about three drachms of bloody serum were found in the abdomen. A femoral hernia existed on the right side; the stricture embraced very tightly a piece of ileum of the size of a nut.
(Figs. 5 and 6.) This strangulated intestine was of slight red colour; about two feet of ileum, a little above the strictured portion, were very much enlarged and distended, with reddish-brown looking fluid; the mucous membrane here was blackened from venous congestion. The other parts of the small intestines were contracted; the cæcum and colon natural. There was only a drop or two of fluid in the sac, and no effusion of coagulated lymph.

Fig. 5. Represents the small femoral hernia, the sac opened, the intestines congested, the femoral artery and vein with the vena saphena entering it.

REMARKS. This case affords scope for many important inquiries. In the first place, it shows the great importance of an accurate examination of the abdomen, in all cases of serious interruption to the function of the gastro-intestinal canal. The surgeon was thrown off his guard, by having so often before attended this patient for biliary derangement. The very large quantity of bilious fluid vomited, clearly shewed that she was bilious now. There was a good deal of cholera in the neighbourhood at the time, and the case had comparatively few of the symptoms of hernia about it. The bowels had been open the previous day; there was neither pain nor tension of the abdomen, and there were symptoms not at all usual in hernia; pains in the back, cramps of the legs, and copious vomiting, together with collapse so severe and so rapid that the patient was dead in thirteen hours from the attack. I do not remember to have seen a case of hernia so rapidly fatal; an
patients have often recovered from operation, after strangulation of many days' continuance.¹

Sudden collapse has been so generally associated with cholera, that I feel persuaded that association has led many persons into error, as it did the surgeon in this case. Collapse is owing to a depression of the nerves of organic life; and whatever tends to depress that system, I believe to be capable of producing collapse in no wise different from that produced by cholera. If that impression be correct, it will do much to take from cholera collapse as a diagnostic sign. Although it is to be regretted that the hernia was not detected, I doubt if anything could have been done to save the patient. The tightness of the stricture even after death, I feel persuaded would never have returned it; and, from the moment she was seen, she was much too weak to have allowed either a warm bath, a tobacco injection, or an operation to have been suggested. Had she been seen earlier, and the hernia then discovered, it is just possible that an operation would have saved her life; although, from the great rapidity of the collapse, the absence of inflammatory action, the comparatively little congested

¹ Sir A. Cooper states, that a case has been fatal eight hours from the first appearance of strangulation, and that an operation has been successfully performed on the eighth day.
state of the intestine strangulated, and the central contraction of the stomach, so often seen in those who die a sudden death, there seems ground for believing that her attack, from its very commencement, was mortal. The state of her spleen was worthy of attention; its small size, and the pale, thin, half nourished appearance that she presented, seem to favour the opinion of those, who believe the function of that organ is concerned in the development of the red globules of the blood.

CONCLUSIONS. Having now narrated all the facts which I have to bring forward, it only remains for me, in conclusion, to state the inferences that I have drawn from them, with regard to the occasional complications of hernia.

1. Symptoms of strangulation may continue after a hernia has been apparently reduced—the reduction en masse, as it has been called. This may be owing to one of two causes; either to the return of the intestine to the upper part of the inguinal canal, and not into the abdomen, constriction therefore continuing at the internal ring; or to the return of the sac, together with the hernia constricted by it.

2. The intestine may be universally adherent to the sac. It is very important to ascertain this, and much may be learnt by pinching up the sac.

3. The direction of the vessels cannot be relied upon as a distinguishing mark between the intestine and the sac.

4. Mortification of the bowel may be simulated by the effects of tobacco; and, in doubtful cases, an operation ought to be performed.

5. Mortification of the bowel may be simulated, in some degree, by the collapse of jungle fever.

6. Foreign and irritating bodies may pass through an irreducible hernia without any ill effects.

7. The bowel may redescend after operation, may again become strangulated, and again require operation.

8. Strangulation may occur in a person the subject of double hernia; and a doubt may arise as to which is the hernia requiring operation. In such a case, the hernia that has existed the longest; and is most tense, should be the one first subjected to the knife.

9. A hernia may pass in an unusual direction.

10. Peritonitis may be coexistent with hernia, in cases where the latter is in no way implicated as a cause.

11. There may be a reducible hernia in one groin, an irreducible hernia in the other, and peritonitis.

12. Strangulated hernia may occur subsequently to peritonitis. If this could be known, it would be very desirable not to open the sac; if it be opened, and numerous adherent convolutions descend so as to prevent their being covered by the integuments, the gut should be punctured to diminish its contents.

13. Enlargement of the inguinal glands may be combined with strangulated femoral hernia, and cause great obscurity.

14. Strangulated femoral hernia in old, irritable, and weak persons, may be rapidly fatal from collapse, scarcely, if at all, to be distinguished from that which accompanies malignant cholera.

Camden Row, Camberwell, April 1851.

(To be continued.)