RICHTER'S HERNIA
OR
PARTIAL ENTEROCELE.

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Received July 12th—Read December 14th, 1886.

THE variety of strangulated hernia with which the present paper deals has attracted but little attention in this country. In the majority of English text-books it receives no notice, and in those treatises in which it is mentioned it is usually disposed of in a few lines. The hernia is rare, but not so rare as to be merely a curiosity. The only two specimens of it that exist in the museum of the College of Surgeons were recently presented by myself, and yet, on the other hand, I have collected over fifty recorded instances of this peculiar lesion.

The main features of the hernia are these. A part only of the circumference of the bowel is engaged and strangulated in the hernial orifice; the involved segment may rapidly pass into gangrene, and yet the lumen of the gut remain free; the portion snared projects from the surface of the intestine as a small, rounded, bud-like diverticulum.

The nomenclature of this hernia is involved in no little confusion. English writers either describe it without special name or speak of it as Littre's hernia. This latter term is employed by most German and French surgeons, but is applied to a variety of rupture quite distinct from that now under notice.

In 1700, Littre¹ (who at that time signed his name De Litre) published an account of "a new form of hernia," and detailed three cases. Two of these were examples of a Meckel's diverticulum finding its way into a rupture. The third case was of too vague a character to be of any scientific value.

Littre believed the diverticulum to have been developed in the hernial sac, as the result of constriction and pressure.

The following were the diagnostic points of this "new form of hernia :"—abdominal pain with prostration, absence of constipation, of meteorism, and of hiccough, vomiting that was of slight severity and never feculent.

The precise nature of the diverticle was not demonstrated until the early part of the present century, when its anatomical character was established by Joannes Meckel.² Before Meckel's time, however, it had been discovered by several observers in hernial sacs. Thus Méry,³ in 1701 reports a case of strangulation of the diverticulum in a hernia; other examples of this form of rupture were provided by Wrisberg,⁴ Gunz,⁵ Ruysch,⁶ Morgagni⁷ and others.⁸ Some of these writers offered no explanation of these occurrences, others, like Méry, adopted the theory propounded by Littre. Since Meckel's time,

¹ 'Mémoires de l'Académie Royale des Sciences,' 1700, p. 300.

² 'Handbuch der menschlichen Anatomie,' Halle, 1815-20.

³ Mém. de l'Acad. Royale des Sciences,' 1701, p. 272.

⁴ Loder's 'Journal für die Chirurgie,' Bd. 1, p. 182, Jena, 1797.

⁵ 'De Herniis,' Lips., 1744, p. 6.

⁶ 'Thesaurus Anat.,' Amsterdam, 1707.

⁷ 'Adversaria Anatomica,' 1741.

⁸ See Cazin, 'Sur les diverticules de l'intestin,' Paris, 1862, p. 91, and Reicke's work.

a large number of examples of hernia of the diverticulum, both strangulated and not strangulated, have been placed on record. The symptoms that arise when the process alone is strangulated, conform very generally to those described by Littre, and also bear resemblance to those that attend strangulation of a partial enterocele.

It is to the rupture that contains a Meckel's process that the term Littre's hernia should alone be applied.

French authors do not employ the name of Littre in an adjectival sense in connection with any kind of rupture, but use the term diverticular hernia (*hernie diverticulaire*) for this especial variety. German writers strictly limit the title Littre's hernia—a term very generally adopted—to the rupture that contains a Meckel's diverticulum, employing also as a synonym the expression diverticular hernia (*Divertikelbrüche, Darmanhangsbrüche*).

The history of the partial enterocele is obscure, and that the two varieties of hernia have been confused together, is a matter for no surprise. It is usually said that Fabricius Hildanus¹ was the first to recognise a partial enterocele. A reference to the works of this writer does not fully confirm this. In 1598 Hildanus attended a lady of sixty-three, who had a hernia of the groin of seventeen years standing. It became strangulated, and was apparently reduced *en masse*. Gangrene occurred, and an artificial anus followed, which closed spontaneously in two months. Hildanus never saw the bowel, and only hazards a conjecture that it was engaged in the ring without forming a fold or loop. This conjecture would seem to have been founded upon the circumstance that the fæcal fistula healed spontaneously.

In 1714 Littre² published a case of strangulation of a part of the colon, the lumen of the tube being still patent. Le Dran³ in 1731, describes what is apparently a genuine

¹ Cent. 1, 'Obs. Chir.,' 55, 1606.

² 'Mémoires de l'Acad. Royale,' 1714, p. 200.

³ 'Observations de Chirurgie,' T. ii, p. 37, Paris, 1731.

example of this form of hernia. George Arnaud¹ in 1749, makes brief mention of it in his work on hernia.

In 1757 a remarkable paper was published by Louis² on gangrene after hernia. In it he describes the partial enterocele. "The gut," he writes, "is not always engaged in the ring by a portion large enough to form a loop. Often it is only nipped, and that over a surface of varying extent." He states that such strangulated herniæ are attended by milder symptoms, and that they quite commonly lead to gangrene. The illustrative cases, however, quoted by Louis do not all bear examination. He appears to have considered that if spontaneous cure followed the establishment of a fæcal fistula in these cases that the hernia was of the kind just mentioned. Examples of the partial enterocele were also described by Morgagni³ and de Haen⁴ about 1761.

It remained, however, for Augustus Gottlob Richter⁵ to give, so far as I know, the first really scientific description of this particular hernia. His treatise on hernia was first issued in 1778. In this work he devoted a separate chapter to what he terms "small ruptures," and therein gives a full, faithful, and elaborate description of the hernia in which a part only of the circumference of the bowel-wall is strangulated. His account of the clinical aspect of the condition is excellent, he recognises Louis' work, and also appreciates the true nature of the hernia that was first described by Littre.

Of the surgeons who have noticed this hernia since Richter's time little need be said. A list of the principal writers will be found in the bibliography at the end of this paper.

One word now on the subject of nomenclature. The French surgeons give to this variety of strangulated

¹ 'Traité des Hernies,' Paris, 1749.

² 'Mém. de l'Acad. Royale de Chirurgie,' 1757, T. viii, p. 26.

³ 'De Sedibus et Causis Morborum,' Venet., 1761, Epist. 34, Art. 18.

⁴ 'Ratio Medendi,' Lugd. Bat., 1761—75.

⁵ 'Abhandlung von den Brüchen,' 1778, 1785.

hernia the titles "Pincement herniaire de l'intestin," "Pincement latéral," "Hernie partielle." The German writers employ the terms "Darmwandbrüche," "Lateralbrüche," "Partialbrüche." In English there is need of a more convenient title. The term "partial enterocele" is not quite clear, and exempts the colon from participation in this variety. The title "small hernia," employed by Cooper and others, is not sufficiently expressive, and the title "incomplete hernia," as used by Gross and some other surgeons, is confusing, since in connection with inguinal ruptures it is usually applied to cases where the gut has not left the inguinal canal.

I would venture to suggest the title "Richter's hernia," partly because a definitive title is not forthcoming, partly to make still more clear the lines that should separate this hernia from that known as Littre's, and partly because with Richter must rest the main credit of establishing the individuality of this lesion.

That the herniæ of Littre and of Richter should have been confused with one another can be no matter of wonder. Such confusion is to be especially found in the reports of English surgeons. By some the term Littre's hernia includes only the partial enterocele, by others it embraces both the partial enterocele and the diverticular hernia, while by a third class of writers all expressive titles are avoided.

Before describing the clinical aspects of Richter's hernia I might give a brief account of four cases that have been under my care at the London Hospital.

CASE 1. A woman, æt. 62, admitted July 24th, 1883. She presented a very small femoral hernia of the right side that had appeared suddenly during exertion three days previously. She was at once seized with abdominal pain, lost her appetite, and became much prostrated. On the second day—but not before—vomiting set in and persisted. On the day of admission the abdomen was a little distended, there was much colicky pain, and frequent vomiting. As the patient would consent to no operation

an ice-bag was applied. On the fifth day of the strangulation, the patient's symptoms being in no way relieved, she consented to herniotomy, which was at once performed. A portion of ileum was held in the femoral ring; the piece so strangulated did not represent more than one third of the circumference of the gut, and projected from the surface of the intestine like a bud. It was gangrenous. Two inches of the bowel were excised, the canal restored by two lines of suture, and the intestine reduced into the abdomen. The patient was much exhausted at the time of the operation, and died two days after its completion. The autopsy showed that the suture line in the gut was well healed, and there was no peritonitis. Throughout the progress of the case there was absolute constipation. The vomiting never became feculent. The specimen is in the museum of the College of Surgeons.

CASE 2. A woman, *æt.* 48, admitted in August, 1884, with a strangulated hernia in the right femoral region. This rupture had existed for twelve years, had been always reducible, and had never been supported by a truss. The symptoms began with abdominal pain, vomiting did not set in until twelve hours had elapsed. The bowels were well open on the first day. Herniotomy was performed upon the third day of the strangulation. A well-marked Richter's hernia of the ileum was discovered. The bowel was not gangrenous, and was reduced in the usual way. The vomiting continued. The bowels were well opened on the fifth day after the operation. The patient died, apparently of a low form of peritonitis, six days after the herniotomy. No autopsy was permitted. In this case constipation was absolute after the first day. The vomiting was not urgent and never feculent.

CASE 3. A man, *æt.* 60, admitted March 13th, 1885, with a strangulated right femoral hernia. The rupture had been noticed for eighteen years, but formed a tumour no larger than the top of an adult's thumb. The patient was very thin. No truss had been worn, and the rupture had never given trouble. Three days before admission—after

an attack of coughing—the hernia became painful. Violent taxis was at once employed, and as the swelling was not diminished it was poulticed. The bowels were well opened on the evening of the first day. On the second day vomiting set in. It became frequent, but was never feculent. The abdominal pain increased, and the patient suffered from distressing hiccough. Herniotomy was performed on the fourth day of the strangulation. A Richter's hernia was found. The lumen of the ileum was not entirely occluded. The sac contained omentum. As the bowel appeared in fair condition it was reduced. For some time the patient did well. On the fifth day after the operation he left his bed—against orders—and walked about the ward in the absence of the nurse. The next day (the sixth) he died suddenly. The autopsy revealed a small perforation in the lately strangulated segment through which fecal extravasation had taken place into the peritoneal cavity. In this instance constipation was absolute after the first day. The vomiting was never feculent. The specimen is in the museum of the College of Surgeons.

CASE 4. A man, æt. 44, admitted August 6th, 1885, with strangulation of a right oblique inguinal hernia. The rupture was of two years standing, was about the size of a walnut, and always reducible. A truss had been worn irregularly. On August 3rd, after exertion, the hernia became painful and irreducible, colic appeared, and in two hours slight vomiting. In three hours the bowels acted. A copious motion was also passed on the next day, but after that the bowels remained confined. On this same day (August 4th) the hernia was reduced after violent taxis lasting thirty minutes. It proved to be a reduction *en masse*. The patient was sick seven times on this day, and three times on August 5th.

On admission the man's condition was good, the tongue clean, the abdomen not distended. The colic and vomiting had persisted. The inguinal canal was at once cut down upon. A reduction *en masse* was discovered. The

sac contained a little omentum, and a portion of small intestine that formed a Richter's hernia. The piece of bowel picked up was about the size of a cherry. It was of a deep purple colour. The lumen of the intestine was free near the mesentery. The strangulating agent was the neck of the sac. The sac was removed and ligatured, and the canal closed in the usual way. The patient made a rapid recovery.

The account that I will now give of *the morbid anatomy and clinical aspects* of Richter's hernia is founded upon the examination of fifty-three recorded cases, among which the four cases just described are included. The number of reputed examples of Richter's hernia that surgical literature presents, greatly exceeds that just enumerated. I have met with some eighty cases in all. About thirty of these, however, are either so imperfectly reported as to be valueless, or do not afford substantial evidence as to their identity.

An analysis of these cases is furnished at the end of the paper. Richter's hernia is more common in women than in men, and is limited to adults, the average age being fifty-three. It is met with more frequently in the femoral than in the inguinal region, and upon the right side than upon the left. It occurs in old herniæ in preference to those of recent formation, and is more often associated with ruptures that have been reducible than with those that have become irreducible. The tumour that existed was in all the recorded cases very small, varying in size from a nut to a hen's egg. In nearly 50 per cent. of the cases the rupture was neither recognised nor suspected during life. In all these instances death followed. In no less than seven of the cases of femoral hernia (the total number of which was thirty-eight) an enlarged gland was found immediately in front of the femoral opening. This is a feature that is deserving of notice. In some of these cases the gland hid the hernia entirely, while in others it led to the diagnosis of acute adenitis as the cause of some of the local symptoms.

In each instance the gland would appear to have been solitary, and of recent appearance. It is well known that certain lymphatic vessels having left the femoral glands make their way through the crural canal to reach the intra-abdominal glands. If a hernia accurately engages the femoral ring it is conceivable that these efferent vessels would be compressed. Such impediment in the lymph circulation may affect the more superficial glands, they may be engorged with lymph and become enlarged either on that account alone or by reason of some adenitis induced by the lymph stasis. The presence of a solitary enlarged gland immediately in front of the crural canal may at least excite suspicion that the lymph-vessels in that canal are exposed to compression.

The segment of bowel engaged is nearly always the ileum, and especially the lower portion of it. In only three cases is the jejunum said to have been involved, and in only one case the colon. A part of the circumference of the bowel only is strangulated. In the case of femoral hernia the constricting agent would appear to be the crural ring, and in the case of inguinal ruptures, most usually the neck of the sac. The amount of bowel that is strangled varies. In some cases as much as four fifths is involved, in others three fourths, two thirds, or one half. Probably in the majority of cases less than one half of the circumference of the tube is held. In many instances the portion strangulated represented only one sixth. Gross states that he has seen several such cases. The strangulated portion is invariably of circular outline, and forms a prominent projection from the surface of the unimplicated bowel. The little projection, which tends to become slightly pedunculated, may be no larger than the tip of the little finger, or may reach the size of "a pea-nut without its shell," or attain the dimensions of a cherry. Excellent drawings of the condition are given by Gross¹ and Dent.²

¹ 'System of Surgery,' 1872, vol ii, p. 613.

² 'Trans. Clinical Society,' vol. xv, 1882, p. 16.

In no less than twelve fatal cases that were examined after death it is expressly stated that the lumen of the gut was in part clear. In some cases nearly two thirds of the lumen was patent, while in other examples no more than a director could be passed by the strangulation. Scarpa's experiments, as detailed in his work on hernia, showed that when two thirds of the circumference of the ileum was artificially strangulated, the passage of water along the tube was more or less completely arrested by reason of the bending of the bowel, but that when only one third was involved fluid passed easily.

In every example in which the description is complete it is shown that the particular part of the bowel-wall involved is that most remote from the attachment of the mesentery. In no instance does the mesentery ever fall within the grip of the constricting ring.

The mode of formation of Richter's hernia is a matter open to dispute. Many surgeons believe, and the belief is of ancient foundation,¹ that a piece of small intestine becomes adherent over the hernial ring, and that partly from intra-abdominal pressure and partly from pressure of the intestinal contents, the segment of the bowel wall that covers the ring is gradually forced through it. In this way a lateral protrusion is formed, and if at a future date the little diverticulum becomes strangulated, the phenomena of this particular rupture are produced.

Schmidt² fully accepts this theory. He goes further and doubts the existence of a free Richter's hernia, *i. e.* of one where no adhesion has taken place between the sac and the intestine.

While there is good reason for assuming that the theory that underlies Schmidt's belief is, in part at least, well founded, there is no evidence to show that it can apply to all cases. I can find but few instances in which it was quite clear that the gut was adherent to the sac. In the

¹ Riecke, 'Ueber Darmanhangsbrüche,' Berlin, 1841.

² "Die Unterleibsbrüche," Pitha und Billroth's 'Handbuch,' Band 3, Abth. 2, Stuttgart, 1878.

majority of cases the two were free, and it is remarkable that in instances where herniotomy was performed there was no difficulty in liberating and reducing the bowel. If no other evidence existed than that afforded by my own specimens at the College of Surgeons, they would be alone sufficient to refute Schmidt's assertion. They would serve to disprove also the grounds upon which this writer's scepticism is founded. He believes with Roser¹ that the reported cases of Richter's hernia as an acute condition are valueless, that the reporters have been deceived by appearances, and that the bladder-like projection on the bowel is produced really by the whole loop being firmly pinched in at its base while it has become distended at its summit. Roser gives some ingenious diagrams to illustrate his views. On the other hand, that a portion of small intestine may become adherent over the hernial orifice, and that the bowel wall so placed may become protruded through that opening must be allowed. It may also be conceded that a diverticulum may form when a portion of the bowel is adherent to the wall of a very small hernial sac. Albert² describes this condition as the chronic form of the partial enterocele. He states that the pouch that is formed in the bowel interferes with peristaltic movements, and that in time some stenosis is produced with all the symptoms of chronic obstruction of the small intestine. Quite apart, however, from the formation of any diverticulum, it is known that adhesion of the lesser bowel to any unyielding parts may produce such changes as will in time lead to the symptoms of chronic stenosis.³

Observations that apply to the small intestine cannot be made in equal degree when the colon is concerned. Many cases have been noted where a part of the circumference of the colon has been found to be engaged in a hernial sac. This has been especially observed in connec-

¹ *Handbuch der anatomischen Chirurgie*, 5 Aufl., p. 327; and *Centralblatt f. Chirurg.*, No. 24, 1886.

² *Lehrbuch der Chirurgie*, Vienna, 1885, vol. iii, p. 316.

³ Treves, *Intestinal Obstruction*, London, 1884.

tion with small umbilical herniæ. An instance of strangulation of a part of the cæcum is reported by Lorenz.¹ So far as the partial enterocele is concerned, the strangulation would appear to be sudden and to ensnare a piece of bowel that had been in no way prepared for the accident. In many of the cases there is reason to believe that the actual formation of the hernia and the strangulation of its contents were the simultaneous effects of the same accident. In five cases of Richter's hernia (two inguinal and three femoral) omentum was found in the sac. In each instance the hernia had existed for two or more years.

The symptoms of this rupture as gathered from an examination of fifty-three cases are as follows: In about one third of the examples the symptoms differed in no way from those that attend typical cases of strangulated hernia. There is the same prostration, the same condition of pulse and tongue, together with absolute constipation and persistent vomiting. It is interesting to note that in several of these instances the lumen of the bowel was found to be free, to a varying extent, at the time of death. With regard to the remaining cases, it may be said that the symptoms generally were much less severe and pronounced than are those usually attending strangulation. In about one tenth of these a motion was passed on the first or first and second day of the strangulation. In the other cases the bowels continued to act from time to time. Sometimes a motion was passed without aperients every day. For example, in a case of eight days' duration, which ended in gangrene, the bowels remained perfectly regular. In other instances the bowels responded to aperients whenever given during the progress of the case. Thus in a patient who presented evidences of strangulation for ten days, an aperient was followed by three loose motions on the ninth day. The gut was gangrenous, and four fifths of its circumference were involved. In the remaining examples, a stool was passed without artificial aid on the third, fourth, fifth, or sixth day of the strangulation. As

¹ Quoted by Albert, loc. cit.

regards prognosis, no difference is to be noticed between the cases attended by constipation and those in which the bowels were regular. In three cases there was persistent diarrhoea throughout the whole progress of the trouble. This appears to have been due to enteritis. All the patients died. In one case where death occurred on the ninth day, no motions were passed, but a purge was followed by a discharge of bloody mucus.

With regard to vomiting, it is upon the whole less frequent and less severe than in the usual form of strangulation. It may not appear until the second day, and may become less urgent as time progresses. In several instances the patient did not vomit more than three times a day throughout the progress of the affection. There is no connection between the condition of the bowels and this symptom. In some cases where the bowels were opened regularly, the vomiting was marked and persistent, while in others of like nature the vomiting was slight and tended to become less. The vomiting is rarely feculent, the fifty-three cases affording only six examples. The earliest appearance of this symptom was on the fourth day of strangulation, and the latest appearance on the eighth day. In three of the cases there was absolute constipation, in two motions were freely passed on the second day, and in the remaining instance no motion, but bloody mucus was passed, and that after a purge. One of these cases serves to illustrate the uncertain progress of the vomiting. The patient was a man aged 65, the hernia femoral and of ten years' standing. The symptoms began with pain, prostration, and colic. Vomiting commenced on the second day, and on that day the bowels were relieved. On the third and fourth days there was no vomiting at all. On the fifth day there was copious bilious vomiting, and on the sixth day the ejected matters became feculent.

Hiccough is quite uncommon, and I can find only five cases in which it occurred. In one of these it was one of the earliest symptoms, and persisted until the patient's

death on the sixth day. In the remaining cases it appeared late.

Meteorism and distension of the abdomen are very rarely met with. In those cases in which the bowels were freely opened this symptom was entirely absent. In other instances it was influenced by the same conditions that influence tympanitic distension in the simple forms of strangulated hernia.

The tumour in these cases being very small is difficult to examine, but when large enough for its physical conditions to be made out it presents no other than the features of an ordinary strangulated rupture.

In some cases a truss was worn, in others not. In some, the rupture was reducible in others irreducible. One striking feature in Richter's hernia is the great difficulty experienced in effecting reduction by taxis. This end was only accomplished in two cases. In each instance the hernia was femoral, and death rapidly followed from acute peritonitis. In the majority of the recorded examples taxis had been tried. In four cases there had been reduction *en masse*. Of these three were femoral and one inguinal.

Another striking point in this variety of rupture is the frequency with which the gut becomes gangrenous. This may be explained by the fact that the constricting force comes direct upon the gut. The mesentery that may afford some protection is not involved. In many instances also the hernia escapes notice. Gangrene is met with in over 50 per cent. of all cases, and occurs more frequently in connection with femoral than with inguinal ruptures. It has been found as early as the third day of strangulation. On the other hand, in cases where strangulation symptoms have persisted for seven, eight, and even nine days the gut has been found still viable. Both these extremes are afforded by femoral herniæ.

The average *duration of strangulation* before death or relief by operation is in femoral hernia five and a half days, in inguinal seven days, and in ventral four days.

The *mortality* in Richter's hernia is, as may be supposed, very high, being represented by 62·2 per cent. It is relatively higher in femoral than in inguinal ruptures. The mortality also after herniotomy in these cases reaches a very high figure. Details upon these points are furnished in an appendix to this paper (see pp. 164, 165).

This high death-rate depends partly upon the frequency with which gangrene occurs, partly upon the fact that the character of the symptoms often encourages delay or leads to an incorrect diagnosis, and partly upon the difficulty of effecting reduction by taxis.

In the matter of *treatment* there is nothing very special to be said. It is evident that these herniæ demand early attention. I would urge that no attempt should be made to reduce the protrusion by taxis, but that herniotomy should be performed as soon as the condition is recognised. As an operative procedure herniotomy is at the present day peculiarly simple, whereas taxis involves unusual risk to the gut, and unusual risk of reduction *en masse*. The sac should, in every instance, be freely opened, and steps taken to secure the protruded bowel before the stricture is divided. There is, so far as I know, no special point in connection with the treatment of the gut when gangrenous. One cannot, however, fail to be struck with the frequency with which spontaneous cure has followed in cases which have been practically left to themselves.

APPENDIX.

Total number of cases 53

	<i>Males.</i>		<i>Females.</i>		
"Femoral"	4	...	14	=	18
R. femoral.	5	...	10	=	15
L. femoral.	3	...	2	=	5
"Inguinal"	8	...	3	=	11
R. inguinal	1	...	0	=	1
L. inguinal	1	...	0	=	1
Ventral	0	...	2	=	2
	22		31		53

Age.

Males . . . Average 54 ... Youngest 17 ... Oldest 80
 Females . . . „ 52 ... „ 30 ... „ 80

Duration of Hernia.

Recent	Femoral	11	} = 16
	Inguinal	3	
	Ventral	2	
Duration not stated—	Femoral	13	} = 16
	Inguinal	3	
Old	Femoral	14	} = 21
	3 months to 18 years.		
	Average—9 years.		
	Inguinal	7	
	2 years to 13 years.		
	Average—5 years.		
			53

Presence of Gangrene.

	<i>Femoral.</i>	<i>Inguinal.</i>	<i>Ventral.</i>
Gangrene of bowel	21	6	1
No gangrene present	16	5	1
Condition not stated	1	2	0
	38	13	2 = 53

Average Duration of Strangulation at time of Operation or Death.

Femoral = $5\frac{1}{2}$ days. Extremes 2 days and 10 days.
 Inguinal = 7 " " 4 " 11 "
 Ventral = 4 " "

Mortality.

		<i>Femoral.</i>		<i>Inguinal.</i>		<i>Ventral.</i>	
Deaths . . .	29	...	3	...	1	=	33
Recoveries . . .	9	...	9	...	1	=	19
Not known . . .	0	...	1	...	0	=	1
	<hr/>		<hr/>		<hr/>		<hr/>
	38		13		2	=	53

Herniotomy (34).

		<i>Femoral.</i>		<i>Inguinal.</i>		<i>Ventral.</i>	
Deaths	18	...	1	...	0		
Cures	6	...	4	...	0		
Recovery with artificial anus . . .	3	...	1	...	1		

No operation (16).

Deaths	9	...	2	...	1
Recovery with artificial anus . . .	0	...	4	...	0

Enterotomy or Colotomy.

Deaths	2	...	0	...	0
	<hr/>		<hr/>		<hr/>
	38		12		2

One unknown.

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(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' New Series, vol. ii, p. 167.)