HARVEIAN LECTURES

ON

THE MODE OF DEATH FROM ACUTE
INTESTINAL STRANGULATION AND
CHRONIC INTESTINAL
OBSTRUCTION.*Delivered before the Harveian Society of London.*

By THOMAS BRYANT, F.R.C.S.,

Senior Surgeon to, and Lecturer on Surgery at, Guy's Hospital.

LECTURE II.—ON THE MODE OF DEATH IN INTESTINAL
OBSTRUCTION, AND ITS TREATMENT.*(Continued from page 1000.)*

It is not necessary for me to dwell for any time upon cancerous ulcers and strictures of the rectum; since there is but small chance of these not being diagnosed, should a local digital examination be made. Without such an examination, an error may certainly be fallen into, and it is to be regretted that such errors are frequent. Persistent rectal irritation and looseness of the bowels should always induce the medical adviser to make a local rectal examination, and the presence of piles associated with these symptoms should make this examination more imperative. The frequent discharge of mucus with the motion demands a local investigation; and, where this discharge has been of long standing, it invariably means some local cause. Steadily increasing difficulty in defæcation, and attacks of "stomach-ache," should always suggest some mechanical obstruction; and when these symptoms are associated with visible peristalsis and perceptible coils of distended bowel, without the passage of mucus or blood, an annular stricture of the large intestine should be suspected. The passage of blood, with mucus or pus, following upon obstruction, or associated with looseness of the bowels, is strong evidence of ulceration of the bowel, and, when combined with sacral pain, suggestive of cancer. When, with the finger, a localised or diffused infiltration of the walls of the rectum is felt, the diagnosis of cancer is confirmed; for, in the rectum, as elsewhere, a local cancer first shows itself as a local infiltration of the tissue it attacks; and, later on, as an infiltration of neighbouring parts, first of the coats of the bowel, and subsequently of the surrounding connective tissue. When the disease is confirmed, the ulcer will be of a raised nodular character, with elevated edges. Simple and syphilitic ulcers and strictures never exhibit these local characters. They simply show ulcerated surfaces, with more or less decided cicatricial bands or adhesions, the cicatricial bands at times taking the form of diaphragmatic strictures. Rectal discharges, with incontinence of fæces, as a rule, indicate ulceration involving the internal sphincter.

I have no wish, however, on the present occasion to dwell upon the pathology of cancerous strictures, for my object is to bring them, with others, before you in their clinical aspect, and to consider how all tend towards death, and in what way they actually kill. Upon this aspect of the subject, I trust I have been sufficiently explicit, since pathological evidence points very clearly to the conclusions I have already laid down, that cancerous, as well as all other forms of stricture, as a rule, cause death by exhaustion or peritonitis, the latter being, in the majority of cases, consecutive to either sloughing, rupture, or ulceration of the overdistended bowel above the stricture.

With these pathological facts before us, let us pass on and consider the indications for treatment.

The great difficulty with which the physician or surgeon has to contend, in dealing with ulcerations of the rectum or the large intestine, is due to the situation of the ulcer and the absolute impossibility, on that account, of keeping it quiet, clean, and free from local irritation—three essential points for the healing of all ulcers. In this fact is to be found the reason why ulcers in these parts, of whatever nature, though small, are slow in healing; why extensive ulcerations, if left alone, apparently never do heal; why, in the process of repair, there is so much cicatricial tissue, and, as a result, contraction; and why, in a general way, all healed or healing extensive ulcers tend to produce obstructive changes. To the dysenteric, simple, or syphilitic

ulcerations, these remarks are particularly applicable; to cancerous ulcers, they need not be applied, since in them, when the process of degeneration, and consequently of ulceration, commences, it is always progressive.

In all cases of ulcer of the bowel, therefore, the horizontal posture, the administration of such food as milk and animal broths with farinaceous compounds—food that supplies fuel to the body, and nourishes, and at the same time leaves behind it the least irritating amount of waste to pass away—should be ordered. Large soothing and occasionally stimulating enemata, and tonic medicines, are essential. When the stage of obstruction has commenced, laxatives are required; and of these the oily forms are the most useful. An enema of olive- or castor-oil is preferable to any other. Purgatives are to be condemned, since they, by producing forced peristalsis of the bowel above the stricture or seat of obstruction, tend to do harm. Belladonna is a valuable drug, and, when combined with opium, gives great comfort. The use of enemata administered through the long tube is dangerous; in some cases, they may give undoubted relief, but in others they cause rupture of the bowel or perforation, and, as a result, fæcal extravasation and death.

When the stage of obstruction has been reached, other important questions become prominent, and more particularly the question of operative interference; since it has been shown, and I trust I may say demonstrated, that obstruction *per se*, from whatever cause, brings about changes in the bowel above the obstruction, which at any time may induce a fatal result. Under these circumstances, the question of colotomy should be seriously entertained, since, when the disease is not cancerous, a rapid healing of the ulcerated bowel may, with confidence, be expected; and, should the malady be of a cancerous nature, rapid and complete relief will be given to the patient.

To support this view, I must refer you to the accompanying tables of 82 cases of colotomy which have taken place in my practice, and to the three following propositions which have been deduced from their consideration. (See following pages.)

1. In all cases of cancerous stricture of the rectum or colon, including the annular—which are not amenable to lumbar colectomy or anal excision—right or left lumbar colotomy is strongly to be advocated, with the well grounded hope of relieving suffering, retarding the progress of the disease, and prolonging life even for five or six years.

2. Lumbar colotomy is valuable as a curative operation in syphilitic and simple ulcerations of the bowel which resist other treatment, including cases of recto-vesical fistula; and it is remedial in examples of volvulus of the sigmoid flexure, as well as of obstructions caused by tumours.

3. To secure these advantages, it is necessary for the operation to be performed before the pernicious effects of obstruction occur.

To support the first proposition, or that which deals with cancerous strictures of the rectum, I would ask you simply to refer to the second of the three tables of cases now placed before you—cases, I may say, which have all passed through my hands; and in them you will find that, out of thirty-four examples which had not been allowed to drift almost to death's door before operative relief was undertaken, and had recovered from the operation, nine survived six months, seven lived from six to twelve months, nine survived for periods varying from thirteen to forty-one months, or three and a half years, and one was alive and living in comfort five years after the operation. And yet these facts, strong as they are, do not tell half the tale; for, by statistics, we cannot estimate the amount of suffering saved, comfort given, or happiness added; and, to estimate correctly the value of colotomy, a large balance of such advantages must be placed in the scale. The majority of the patients who lived the many months I have summarised died simply from asthenia; not from pain, peritonitis, or obstruction; but from a slow and painless process of exhaustion, due to the progress or extension of cancerous disease. One of the patients, aged 64, for whom the operation had been performed solely with the view of rendering what appeared to be the last few weeks of life endurable, lived in comparative comfort three and a half years, and then died of apoplexy; and a second, aged 66, in whom the operation was undertaken under like circumstances, lived and died without pain twenty-six months after the operation; and a third, aged 38, when operated upon, was alive and in comfort five years later. With these facts before us, even if they were unsupported by the past recorded experience of Curling, Hawkins, Pollock, Mason, Morris, and others, I think it must be admitted that, in cancerous disease of the colon or rectum, right or left lumbar colotomy, if not postponed to too late a period of the disease, that is, till the stage of obstruction has advanced, is most valuable; and that it is so,

TABLE I.—Cases of Lumbar Colotomy for Cancer that Died within the Month. "Too Late Cases."

No.	Hospital or Private Patient.	Name of Patient.	Age.	Date of Operation.	Colotomy, Right or Left	Disease for which Operation was performed.	Result.	No.
1	Hospital—Dr. T. Addison	Mary P—	48	Oct. 6th, 1859	Left	Annular stricture of rectum. Obstruction complete for 6 weeks	Sank. Died on 12th day, greatly relieved.	1
2	Private	Mr. T—	61	Nov. 2nd, 1868	Left	Cancerous stricture of rectum. Symptoms 2 years	Sank on 2nd day.	2
3	Hospital	William B—	52	May 12th, 1871	Left	Epithelioma of anus and rectum of 6 years' growth	Died on 24th day; sank. Operation-wound healed. P.M.—Cancer of viscera.	3
4	Hospital	Thomas M—	68	Aug. 20th, 1872	Left	Cancerous stricture of rectum. Symptoms 2 years	Sank on 3rd day. P.M.—Large cancerous mass in pelvis.	4
5	Hospital	Edmund B—	67	May 7th, 1872	Left	Cancerous stricture of rectum. Severe symptoms 8 months	Sank on 6th day. P.M.—Disease quite local.	5
6	Hospital	William H—	64	July 17th, 1873	Left	Cancerous stricture of rectum. Symptoms 2 years, blood for months	Sank on 3rd day. Peritonitis; bowel had ruptured above the stricture.	6
7	Private	Mr. H—	69	July 10th, 1873	Left	Cancerous stricture of rectum. Obstruction complete for weeks	Sank on 20th day.	7
8	Hospital	Frederick D—	38	Aug. 26th, 1873	Left	Increasing obstruction for 6 years. Recto-vesicle fistula for months	Sank on 10th day. Cancerous ulcer into bladder, with secondary growths.	8
9	Hospital	Emma W—	44	Jan. 12th, 1874	Left	Cancerous stricture, with symptoms for 5 years. Obstruction for 5 months	Sank on 3rd day. Peritonitis; cancerous ulcer between the rectum and jejunum.	9
10	Private—Mr. R. Phillips	Mr. G—	37	June, 1874	Left	Cancerous stricture of rectum of many months' standing	Sank on 4th day.	10
11	Private—Dr. Baber	Mrs. B—	56	March, 1875	Left	Chronic obstruction complete	Sank on 7th day.	11
12	Private	Mr. P—	45	July 30th, 1875	Left	Cancerous stricture of rectum	Sank on 3rd day.	12
13	Hospital	William M—	44	Sept. 3rd, 1875	Left	Cancerous disease of rectum, with fecal fistula 9 months	Sank on 3rd day. Peritonitis. P.M.—Bowel above stricture ruptured.	13
14	Private—Drs. Huddard and Habershon	Mr. B—	52	March, 1876	Right	Annular stricture of transverse colon. Symptoms 1 year, obstruction 4 weeks	Sank on 10th day. P.M. confirmed diagnosis.	14
15	Private—Dr. Owens	Mr. S—	37	Aug. 14th, 1877	Left	Cancerous stricture of rectum of slow contraction	Sank on 5th day.	15
16	Hospital	Eliza C—	56	Jan. 9th, 1877	Left	Cancerous stricture of rectum. Symptoms 8 or 4 years. Blood	Sank on 3rd day. P.M.—Cancer in viscera and peritoneum.	16
17	Hospital	William T—	54	Aug. 15th, 1877	Left	Cancerous stricture of rectum. Pain, blood and mucus, with feces, for 8 years	Died on 18th day suddenly, from sudden pain, collapse, and ruptured spleen. No peritonitis.	17
18	Hospital	Michael S—	55	April 4th, 1879	Left	Cancerous stricture of rectum. Nine months	Sank on 23rd day. P.M.—Peritoneal cancer and volvulus of sigmoid flexure	18
19	Private—Dr. Gorham, Tunbridge	Miss H—	52	Nov. 30th, 1880	Left	Cancerous stricture of rectum many months. Obstruction 3 weeks	Sank on 3rd day.	19
20	Hospital	Arthur le G—	62	Nov. 22nd, 1881	Left	Cancerous stricture of rectum. Bleeding for 18 months	Sank on 4th day. P.M.—Peritonitis, and much cancer.	20
21	Private—Dr. Deeping, Southend	Mr. S—	64	Feb. 10th, 1882	Left	Cancerous stricture of rectum	Sank on 5th day.	21
22	Private—Mr. E. Wright	Mr. H—	64	April 26th, 1882	Left	Cancerous stricture of rectum	Sank on 5th day.	22
23	Private—Mr. W. Burton	Mr. H—	47	June 25th, 1882	Left	Cancerous stricture of rectum	Sank on 5th day.	23
24	Private—Dr. May, Maldon	Mrs. —	51	Oct. 18th, 1882	Left	Cancerous stricture of rectum	Sank on 5th day.	24
25	Hospital	Eliza H—	55	Dec. 5th, 1882	Left	Cancerous stricture of rectum and vagina 15 months	Sank on 27th day.	25
26	Private—Dr. Neumann	Mr. A—	52	Aug. 22nd, 1883	Right	Stricture of rectum	Sank on 4th day.	26

ANALYSIS OF THE TWENTY-SIX CASES.—19 in males, 7 in females; average age, 53½ years; average age of men 54½, of women 51½. Twenty-four on the left, and 2 on the right side. Eighteen died in the first week, 3 in the second week, 2 in the third week, and 3 in the fourth week.

First, in retarding the progress of the disease, by removing from its presence a source of irritation—the passage of feces;

Secondly, in relieving the pain caused by the passage of feces, through the narrowed and probably ulcerated lumen of intestine, and the ineffectual efforts of the bowel above to pass on its contents;

Thirdly, in prolonging life, probably for one or two years, and possibly for four or five years, and, at the same time, in saving the patient from a painful and miserable death—that from obstruction; whilst, at the same time, it leads the patient to his last home in as painless and quiet a way as can be desired.

The operation, however, to secure these desirable results, must be undertaken in the state of disease that precedes pernicious obstruction. For, as soon as marked symptoms of obstruction occur, changes, to which attention has been already drawn, have commenced in the bowel above the seat of obstruction, against which the operation of colotomy can have no influence. The operation, moreover, if considered early, that is, before decided obstruction has taken place, may possibly, as demonstrated by me in 1882, in some few cases be superseded by lumbar "colectomy," or the removal of the stricture itself through the lumbar wound; an advantage which needs no argument to demonstrate it. For full particulars of this operation, I must refer to my paper on lumbar colectomy, published in the *Transactions of the Royal Medical and Chirurgical Society*, for 1882 (vol. lxx, p. 131).

I must now proceed to support the second proposition, that lumbar colotomy is valuable as a curative operation in syphilitic and simple ulcerations of the rectum which resist other treatment, as it is in cases of recto-vesical fistula. In my Table III, I have included twenty cases of colotomy for simple and syphilitic strictures; five were clearly of a

syphilitic origin, several were of the dysenteric type, others may have been of the tubercular variety. In all, the strictures were long and narrow, for diaphragmatic strictures can be treated by simpler means. Seven of these twenty cases died within the month, from either the operation or from its having been postponed too long; five died within six months; four survived the operation from one to five and a half years, all dying from causes unconnected with their local trouble; one, aged 28, from bronchitis at two and a half years; one, aged 38, from kidney-disease at three years; one, aged 50, from pneumonia at three and a half years; one, aged 70, from ruptured heart at five and a half years after operation. Four other patients were alive when the tables were compiled, four months ago, one seventeen months after the operation, another two and a half years, a third four years after, and in good general health, and a fourth fourteen years after. Of the four patients who were alive when last heard of, the one who was alive and well seventeen months after the operation was a man, aged 35, who had been operated upon for extensive ulceration of the rectum with obstruction of two years' standing. After the operation, the bowel-symptoms rapidly disappeared, and the ulcers healed, although with contraction. All the motions passed through the lumbar wound. The second case was a man, aged 25, who had had syphilis three years before the operation, and ulceration and stricture of the rectum for two years. The bowel an inch and a half above the anus was very narrow. Two and a half years after the operation the man was well. He passed all his motions through his lumbar wound. The rectum was cicatricially almost closed. The third case was that of a man who, when 38 years of age, was dying from obstruction of six weeks' standing, the cause of which was not clear. He was a patient

TABLE II.—Cases of Lumbar Colotomy for Cancer that Recovered from the Operation.

No.	Hospital or Private Patient.	Name of Patient.	Age.	Date of Operation.	Colotomy, Right or Left	Disease for which Operation was performed.	Result.	Survived Operation.	No.
1	Hospital	James W—	39	July 31st, 1868	Left	Cancerous stricture of rectum. Symptoms 3 years	Convalesced. Died of abdominal cancer	18 months.	1
2	Hospital	Martha P—	57	May 31st, 1870	Left	Cancerous stricture of rectum	Convalesced in 7 weeks	Left hospital	2
3	Private	Miss B—	18	Sept. 6th, 1871	Right	Annular stricture of rectum	Convalesced. Died of internal cancer	9 months.	3
4	Hospital	Eliza B—	38	Oct. 10th, 1871	Left	Supposed cancer of rectum. Symptoms 18 months. Blood and mucus	Convalesced	Alive 5 years subsequently	4
5	Hospital	Richard C—	46	Jan. 9th, 1872	Left	Cancer of recto-vesical septum	Convalesced	Left hospital	5
6	Private	Mrs. B—	24	Feb. 10th, 1872	Left	Extensive rectal ulceration, supposed to be cancer and stricture	Convalesced. Sank	33 months.	6
7	Hospital	George S—	56	April 14th, 1873	Left	Cancerous stricture of rectum and anus, with faecal fistula	Convalesced. Sank. Much local cancer, no visceral	10 months.	7
8	Private—Dr. Stilwell and Sir W. Gull	Mrs. B—	72	Dec. 6th, 1874	Right	Colloid cancer of rectum and sigmoid flexure	Convalesced. Sank later from disease	21 months.	8
9	Private—Dr. Brown, Ealing	Mr. R—	64	June 2nd, 1876	Left	Cancerous stricture of rectum, with recto-vesical fistula 3 months	Convalesced. Sank	3½ months.	9
10	Private—Mr. T. Harries, Aberystwyth	Mr. T. D.—	57	Feb. 12th, 1877	Left	Cancerous stricture of rectum. Symptoms 1 year. Bleeding 6 months	Convalesced. Sank	16 months.	10
11	Private—Drs. Chambers and Menzies	Mr. A—	57	Dec. 30th, 1876	Left	Cancerous stricture of rectum 2½ years. No solid faeces for 1½ years	Convalesced. Sank	4 months.	11
12	Private—Mr. Hodgson, Brighton	Mr. B—	54	April 16th, 1878	Left	Cancerous stricture of rectum 1 year	Convalesced. Sank	7 months.	12
13	Private—Dr. Drewry	Mrs. B—	56	May 4th, 1878	Left	Cancerous stricture of rectum, with profuse hemorrhage, 1 year	Convalesced. Sank	12½ months.	13
14	Private—Dr. Wallace	Mr. S—	42	June 13th, 1878	Left	Cancerous stricture of rectum, with faecal fistula many months	Convalesced. Sank	12 months.	14
15	Hospital	John B—	39	June 27th, 1878	Left	Cancerous stricture of rectum. Symptoms 16 months	Convalesced. Died of stricture of urethra (?)	10 months.	15
16	Hospital	George W—	51	Nov. 12th, 1878	Left	Cancerous stricture of rectum. Symptoms 2 years. Great obstruction	Convalesced. Sank	9½ months.	16
17	Private—Dr. Bowes, Herne Bay	Mr. S—	64	April 5th, 1879	Left	Cancerous stricture of rectum. Symptoms 1 year	Convalesced. Died of apoplexy	41 months.	17
18	Private—Dr. Kiddle, Leamington	Mr. H—	66	Nov. 8th, 1879	Left	Cancerous stricture of rectum. Symptoms about 1 year	Convalesced. Sank. Internal cancer	26 months.	18
19	Hospital	Mary T—	59	Dec. 9th, 1879	Left	Cancerous stricture of rectum 9 months	Convalesced	Left hospital	19
20	Hospital	Alice P—	25	Aug. 6th, 1880	Left	Colloid cancer of rectum	Convalesced. Died from perforation of growth into peritoneal cavity	5 weeks.	20
21	Hospital	Eliza C—	29	Feb. 3rd, 1880	Left	Cancer of rectum. Symptoms 6 months	Convalesced in 5 weeks	Left hospital	21
22	Private—Dr. Andrews	Mr. W—	42	Nov. 15th, 1880	Left	Cancerous stricture of rectum. Symptoms 6 months. Obstruction 2 weeks	Convalesced. Sank	3 months.	22
23	Hospital	Emma R—	38	Nov. 16th, 1880	Left	Epithelioma of rectum and anus 2 yrs.	Convalesced. Sank	13½ months.	23
24	Private—Mr. J. Burton and Dr. Higgins	Mrs. S—	42	April, 1881	Left	Cancerous stricture of rectum. Obstruction 3 months, complete 2 weeks	Convalesced. Sank. Visceral cancer	15 months.	24
25	Hospital	Charles H—	64	June 18th, 1881	Left	Cancerous stricture of rectum. Symptoms 6 months	Convalesced	Left hospital	25
26	Hospital	Samuel R—	15	Dec. 30th, 1881	Left	Cancerous stricture of rectum. Symptoms 5 months	Convalesced. Sank	3½ months.	26
27	Hospital	John J—	60	Feb. 15th, 1881	Left	Cancerous stricture of rectum. Symptoms 25 years. Blood, mucus, and increasing difficulty of defaecation	Convalesced	Left hospital	27
28	Hospital	Eliza W—	46	Feb. 4th, 1881	Right	Cancerous disease of rectum. Symptoms 9 months	Convalesced. Died from extension of local disease	6 weeks.	28
29	Hospital	Sarah A—	33	Nov. 2nd, 1881	Left	Cancerous disease of rectum. Symptoms 2 years. Blood and pain	Convalesced. Died suddenly. Much local disease	30 days.	29
30	Hospital	Richard H—	62	Feb. 10th, 1882	Left	Cancerous stricture of rectum	Convalesced in 6 weeks	Left hospital	30
31	Hospital	Daniel S—	39	May 12th, 1882	Left	Cancerous stricture of rectum. Symptoms 6 months	Convalesced. Sank	10½ months.	31
32	Private—Dr. Bailey	Mr. S—	35	July 28th, 1882	Left	Cancerous stricture of rectum	Convalesced. Sank	6 months.	32
33	Private—Dr. Calthrop	Mr. T—	62	Mar. 16th, 1882	Left	Cancerous stricture of rectum	Convalesced. Sank	6 months.	33
34	Hospital	John C—	52	April 8th, 1884	Left	Cancerous stricture of rectum	Convalesced in 1 month	Left hospital	34

ANALYSIS OF THE THIRTY-FOUR CASES, OR 56 PER CENT.—9 died within 6 months, 7 lived from 6 to 12 months, 9 lived from 1 to 5 years, 1 was alive 5 years after, 8 left the hospital convalesced: 21 occurred in males, 13 in females; 31 were on the left, and 3 on the right side. Average age 44; of men 46, of women 41.

of Dr. Wilks. To save life, I opened the colon in his left loin, and with success. Four years later, he was alive and well. All his motions passed through the lumbar wound. No fresh light has been thrown upon his disease. I was disposed to think it was due to a twist of the sigmoid flexure.

The fourth case was a patient of Dr. Habershon, a man, aged 49, who had a recto-vesical fistula of three years' standing. The disease in his case was supposed to have been cancerous. I operated upon him to give relief to his bladder as much as to his intestinal symptoms, with no idea of helping towards a cure. He rapidly convalesced after the operation, and all his motions passed through his loin. Fourteen years after the operation, May 20th, 1884, he wrote to me as follows. "I am glad to inform you that the operation has been quite successful, as it has added nearly fourteen years to my life. I am quite free from pain, and I feel as strong as if nothing was the matter with me. The contents of the bowel all pass through the opening in the back. Nothing passes into the lower bowel except the water from the bladder" (*vide Clinical Society's Transactions*, vol. v, 1872, page 127).

With this evidence, added to what has been brought forward in the early part of this lecture, I trust I have fairly proved the truth of the second proposition, that lumbar colotomy is valuable as a curative operation in syphilitic and simple ulcerations of the bowel which resist

other treatment, including cases of recto-vesical fistula. It must however, be remembered that, to secure the advantages of this operation in cases of either cancerous or of non-cancerous stricture, the operation should be performed before the pernicious effects of obstruction occur.

One word as to the operation itself, and particularly as to the best way of guarding against the passage of the faeces past the lumbar opening into the rectum; for I think all surgeons will be ready to admit that this point is one of importance, and that it is not sufficiently met by any of the operations as ordinarily performed. And yet, on looking over my notes, I have in the majority of cases read that the faeces all pass through the lumbar wound. This fact clearly shows that, as a rule, the object has been attained. In many cases, however, it must be admitted that this desirable result is not secured; and, with the view of making it more certain, I have in two recent cases carried out a plan, which has proved eminently satisfactory. It was as follows: I divided the muscles freely down to the lumbar fascia, and then, having twisted all bleeding vessels, divided it, and exposed the bowel. I easily separated it from its connective tissue attachments, and by so doing, allowed it to project well from the wound.

Having done this, I made sufficient traction upon its pelvic end to

TABLE III.—Cases of Colotomy for Simple or Syphilitic Stricture of Rectum that Died within the Month.

No.	Hospital or Private Patient.	Name of Patient.	Age.	Date of Operation.	Colotomy, Right or Left	Disease for which Operation was performed.	Result.	Survived Operation.	No.
1	Hospital	Eliza O—, married, 2 children 4 stillborn, 1 miscarriage	29	Mar. 19th, 1872	Left	Syphilitic stricture of rectum. After last child, two years ago, had bowel trouble, which soon gave rise to faecal, vaginal, and perineal fistula	Sank. P.M.—Good repair in loin; rectum almost obliterated from cicatricial bands	On 18th day	1
2	Hospital	Louisa C—	33	Dec. 5th, 1867	Left	Chronic ulceration of rectum, with increasing obstruction for months	Sank. P.M.—Sigmoid flexure, rectum and uterus all matted together; bowel very narrow and thickened	On 4th day	2
3	Hospital	Mary S—, married, no children	46	Mar. 3rd, 1876	Left	Very narrow stricture from 1 inch above anus; blood, mucus, and pain for months, with increasing obstruction	Sank. P.M.—Extreme ulceration of rectum from 2 inches above anus, with sinus	On 3rd day	3
4	Hospital	Hans K—, been abroad, but not had dysentery	65	Dec. 30th, 1881	Left	Admitted with recto-vesical faecal fistula of 6 weeks' standing; 12 years before this patient had for weeks passed wind with his water, from which he had recovered	Sank. P.M.—Marked signs of old ulceration and contraction of rectum; sign of old cicatrix into bladder, with recent fistula	On 17th day	4
5	Hospital	Eliza B—, married, 1 child, 1 miscarriage	42	Feb. 6th, 1883	Left Bowel torn across	Cicatricial stricture, with ulceration of 5 years' standing, commencing $\frac{1}{2}$ inch from anus	Sank. P.M.—Bowel very ulcerated and friable up to colon; it had been torn through at operation	On 4th day	5
6	Hospital	Harriet K—	37	Nov. 28th, 1877	Left	Very narrow stricture and ulceration after 6 months' symptoms	Convalesced. Died of phthisis. Bowel repaired; one stricture 3 inches, and a second 6 inches, from anus	28 days	6
7	Hospital	James R—	40	Nov. 14th, 1882	Left	Stricture and ulceration. Much pain and blood for 6 months	Sank. P.M.—Colon much ulcerated; bowel contracted	30 days	7

Cases of Lumbar Colotomy for Non-cancerous Stricture or Disease that Convalesced after Operation.

8	Hospital	William D—	46	April 5th, 1867	Left	Recto-vesical faecal fistula, with rectal obstruction and ulceration	Convalesced. Died of kidney disease. Rectum repaired and contracted	5 months	8
9	Private—Dr. Habershon	Robert R—	46	July 5th, 1870	Left	Recto-vesical faecal fistula, with obstruction	Convalesced	14 years, alive & well	9
10	Hospital	Mary L—	38	Aug. 12th, 1873	Left	Stricture of rectum after ulceration for 6 years. Much bleeding	Convalesced. Died of kidney disease: rectum healed and contracted	34½ months	10
11	Hospital	Mary P—married no children, no miscarriage	37	Nov. 9th, 1881	Left	Rectal symptoms for 15 years. Pain, blood, mucus with faeces. Admitted with narrow stricture, probably syphilitic	Convalesced. Sank from kidney disease and large spleen; lower 3 inches of rectum, lost its mucous membrane with cicatricial tissue outside	40 days	11
12	Hospital	William H—no syphilis	27	Nov. 7th, 1881	Left	Stricture and ulceration of rectum 17 months. Blood and mucus with faeces	Sank	18 weeks	12
13	Hospital	Philip K—	35	Dec. 2nd, 1882	Left	Stricture and ulceration of rectum. Symptoms 2 years	Convalesced. Bowel healed and almost closed	18mons. well comfortable	13
14	Hospital	Caroline H—, married, had miscarriage	28	May 10th, 1878	Left	Syphilitic stricture and ulceration 30 months. No solid faeces passed for 6 months	Convalesced. Died from bronchitis	1 year	14
15	Hospital	William B—, syphilis 3 years	25	July 12th, 1878	Left	Very narrow stricture, $1\frac{1}{2}$ inches above anus. Symptoms for 2 years	Convalesced. Bowel had healed and almost closed 2 years later	2½ years later alive & well	15
16	Hospital	Susan S—, married, had miscarriages	40	May 3rd, 1881	Left	Admitted with narrow stricture and vaginal and perineal faecal fistula. No history of syphilis	Sank. P.M.—Rectum greatly indurated, contracted, and ulcerated; ulcers vertical	9 weeks	16
17	Hospital	Louisa P—, married, 1 child, 1 miscarriage, had syphilis	24	Sept. 2nd, 1874	Left	Admitted with recto-vaginal faecal fistula and fistula in buttock. Operation performed for relief	Died of hip-disease. All the fistulae had closed soon after operation. P.M.—Lower 4 inches of rectum covered with bands of cicatricial tissue much contracted	4½ months	17
18	Private—Sh W Cull	Mr. T—	64	Mar. 16th, 1860	Left	For vesico-rectal faecal fistula	Rapidly convalesced. No faeces passed after operation through rectum. Died of ruptured heart. P.M.—Rectum healed; old fistula into bladder small	5½ years	18
19	Private—Mr. R. Phillips	Mr. S—	46	Nov. 14th, 1877	Left	Multiple-rectal fibrous polypoid growths of 3 years' standing. Had had polypi removed twice before. Great tenesmus and discharge of blood and serum. At once relieved by the operation	Convalesced, and died from pneumonia	41 months	19
20	Hospital	John S—	38	July 16th, 1880	Left	Complete obstruction for 6 weeks. Operation to save life. Case, one of volvulus in all probability	Convalesced	4 years, alive and well	20
21	Hospital	Fred. R—	18	Mar. 2nd, 1874	Left	Cancerous pelvic tumour occluding rectum	Sank from the disease relieved	7 weeks	21
22	Private—Mr. R. Phillips	Mrs. M—	43	April 5th, 1870	Left	Pelvic tumour obstructing rectum (cancerous)	Relieved by operation. Died from ruptured cancerous mesenteric tumour	4 days	22

ANALYSIS OF TWENTY-TWO CASES NOT CANCEROUS.—19 for stricture and ulceration of the rectum not cancerous, 1 for obstruction from volvulus of the sigmoid flexure, 2 ditto from pelvic tumours; 10 of the 19 cases of stricture occurred in females, 9 in males; average age of 19 cases, 40 years—of females 35, of males 45. All operations on left loin. Nine died within the month; 5 within 6 months; 4 lived respectively 1 year, 3, 3½, and 5½ years. Four are now alive and well, 1½, 2½, 4 years, and 14 years after the operation.

ANALYSIS OF THE WHOLE NUMBER OF EIGHTY-TWO CASES OF COLOMOTOMY. were performed for cancerous stricture.

19 stricture and ulceration of the rectum not cancerous.

1 was performed for volvulus of the sigmoid flexure of the colon.

2 for obstruction due to pelvic tumours.

64 operated upon:—

Left lumbar colotomy was performed in 77, and right lumbar colotomy in

5 of these cases, all of the 5 being cancerous. Right lumbar colotomy was called for in 1 out of 12 cases of cancerous stricture.

Duration of life after the operation:—

26, or 43 per cent., of the cancerous, and 6, or 31.5 per cent., of the non-cancerous cases, with one of the cases operated upon for obstruction, or 40 per cent. of the whole number of 82 cases operated upon, died within the month.

34, or 56 per cent., of the cancerous, and 13, or 68.5 per cent., of the non-cancerous cases, with the case of volvulus and one of the cases of obstruction, or 60 per cent. of the whole number of cases operated upon, received, more or less fully, the benefit of the operation.

Of the 49 successful cases:—

16 cases, 9 cancerous and 7 non-cancerous, died within 6 months.	
8 " 7 " 1 " lived from 6 to 12 months.	
12 " 9 " 3 " lived from 1 to 5½ years.	
5 " 1 " 4 " were alive from 1½ to 14 years after operation.	
8 " 8 " had left the hospital convalescent.	
40 " 34 " 15 "	

Sex:—

Of the 60 cancerous cases: 40 were in males, 20 in females.	
" 19 non-cancerous: 10 " 9 "	
" 1 case of volvulus: 1 was in male. " "	
" 2 cases of obstruction: 1 " 1 in female.	

Of the 82 cases: 52 were in males, 30 in females. Cancerous stricture is more frequent in males. Non-cancerous stricture is found equally in both sexes.

Age:—

The average age of the cancerous cases, when fatal was 53: in male subjects 54, in female 51.	
" successful 44 " 46 " 41.	
The average age of the successful being about 10 years less than that of the fatal cases.	
No abnormality as to the position of the colon was met with in any of the 82 cases.	

enable me to bring outside the deep orifice of the wound a complete knuckle of intestine, with its outer surface on a level with the skin-wound. This I left *in situ*, and simply protected it with a piece of lint covered with vaseline, over this some iodoform-gauze, and outside a mass of Gamgee-tissue. I then applied a broad bandage to the abdomen, carrying its ends above and below, but not over, the lumbar incision. I put no stitches of any kind in the wound, and, beyond what has been described, did nothing to hold the bowel in the position in which I had placed it. Nothing that could be regarded as evil followed this measure. Both patients—a man and a woman—went on without a bad symptom. On the fourth day in one, and on the fifth day in the other case, when I looked at the wound, I found the bowel had retained its position, and had not receded, and that its wall had already united with the skin-wound. I then, with a tenotomy-knife, punctured the bowel, and enlarged the opening for about half an inch in length, when feces escaped. Both cases subsequently went on to a speedy convalescence, and all the feces passed through the anal wound. From these two cases, however, I must not speak too confidently about the method advocated, though it seems to be good, and to promise well. It cannot, however, be carried out in all cases. By it, it seems probable that we have a means of simplifying the operation of colotomy to a great degree; of diminishing the risks of peritonitis in its early stage; and of enabling us to occlude effectually the lower end of the rectum, which is a most desirable object of attainment. Whether the same end is to be safely secured by sutures, or by means of pins passed deeply through the bowel, as Mr. Macnamara passes them through the stomach in gastrostomy, or by an absolute division of the bowel, as carried out in my case of colectomy already referred to, time will prove; but there can be no question as to the desirability of our finding out some means by which the contents of the bowel can be wholly discharged through the lumbar wound, and the lower end of the diseased intestine left alone and un-irritated. When these means are found, the full benefit of a valuable operation will be demonstrated.

REQUESTS AND DONATIONS.—Sir William Armstrong has given £500 towards the new buildings for the Northumberland, Durham, and Newcastle Infirmary for Diseases of the Eye.—Messrs. Lacon and Co. have given £100, Messrs. Gurney and Co. £100, and Mr. T. P. Burroughs 50 guineas, towards the proposed Yarmouth Ward of the Eastern Counties Idiot Asylum at Colchester.—The Leeds Public Dispensary has received £100 under the will of Mr. Walter Stead, of Harrogate.—The Goldsmiths' Company have given £50 to the Metropolitan Convalescent Institution.—Mr. Basil Orpin, of Marston, co. Cork, has bequeathed £50 to the Coombe Lying-in Hospital, Dublin.

The Chesterfield Rural Sanitary Authority, on re-appointing Dr. Angus Mackintosh medical officer of health, in April last, reduced his salary from £400 to £350 a-year, which the Local Government Board hesitated to confirm, and urged the authority to reconsider it, which they did, but adhered to their decision; and so the matter remained until they quite recently inquired of Dr. Mackintosh if he would consent to the reduction. At the last meeting, a reply from him was received and read, "that he had no alternative but to do so;" whereupon the clerk was directed to apply to the board above now to give their sanction.

ABSTRACT OF A LECTURE

ON THE

INTERNATIONAL HEALTH EXHIBITION OF 1884: ITS INFLUENCE AND POSSIBLE SEQUELS.

Delivered before the Society of Arts, Wednesday, November 26th, 1884.

By ERNEST HART,

Chairman of the National Health Society, and of the Smoke Abatement Institute.
Member of the Executive Council of the International Health Exhibition.

HISTORY AND PROGRAMME OF THE EXHIBITION.—FOOD DEPARTMENT.—SMOKE-ABATEMENT, HEATING, AND VENTILATION.—LITERATURE OF THE EXHIBITION.—THE LIBRARY.—THE SANITARY AND UNSANITARY HOUSES.—THE HEALTH-LABORATORIES.—THE RESEARCHES OF M. PASTEUR AND DR. KÖCH, AND SOME OF THEIR RESULTS.—METEOROLOGICAL AND ANTHROPOMETRICAL LABORATORIES.—PROPOSAL FOR PERMANENT ESTABLISHMENT OF HEALTH-LABORATORIES.—THE LESSON OF THE EXHIBITION AS AN OPEN-AIR RECREATION, AND THE ELECTRIC LIGHTING OF PUBLIC PARKS.—DISCUSSION.

IN undertaking, at the request of the Council of the Society of Arts, to deliver at very short notice an address on the subject of the International Health Exhibition, as the first paper of the session, I am influenced far less by any sense of personal fitness for undertaking a duty which would certainly be better filled by many of the eminent persons connected with that important and successful enterprise, than by a desire to carry out the wishes of the authorities of a Society which has from the first so largely aided in the successful development of the work of the Exhibition, and in the completeness of some of the most important of its executive details; a council on which there may possibly devolve important duties in connection with the more permanent memorials which that undertaking may be expected to leave behind it. The members of the Society of Arts will inherit from the International Health Exhibition one legacy at least, upon which, indeed, they have already entered, which will constitute one of the most lasting memorials of the Exhibition, and one which is destined to exercise a far reaching influence in the furtherance of popular knowledge on health-subjects and the encouragement of further progress. I refer to the twenty solid volumes of handbooks, lectures, conferences, and catalogues which constitute the literature of the Exhibition, and to which have been devoted a large sum of money from the proceeds of the Exhibition. I venture to characterise them as of unsurpassed excellence: and the more they are studied, the more they will be appreciated.

Health-exhibitions belong altogether to quite modern history, as, indeed, it is inevitable that they should, seeing that the science and art of sanitation, as we now study it, is of altogether modern origin, and may be said to be of chiefly English growth. Putting aside any attempt to review the history of health-exhibitions in this country, I may say that I believe that the earliest attempts in that direction may be justly set down to the credit of the Social Science Association, which has, during many years, held local exhibitions of the kind in connection with its annual meetings. This Association held its first exhibition in connection with its annual congress in Leeds, in 1871, followed by exhibitions in Norwich in 1873; Glasgow, 1874; Brighton, 1875; Liverpool, 1876. The Sanitary Institute held its first exhibition in 1879, and has since continued them in various great cities. The Parkes Museum, established in 1876, has since continuously developed the valuable collection formed in memory of the eminent man whose name it bears, and has successfully endeavoured, from year to year, to make this institution of increasing use by a series of lectures and meetings, which should attract to the museum persons interested, or whom it was desired to interest, in public health questions. These conferences afford an opportunity for diffusing information and for obtaining and communicating exact information on subjects relating to the public health. An exhibition of sanitary appliances, and of medical and surgical instruments related thereto, was successfully arranged by the authorities of the Parkes Museum at South Kensington in the year of the Medical Congress, 1881. So far as I know, however, the first health-exhibition held in this metropolis, in the sense in which that word has been understood on this occasion—namely health in its relation to the habitation, food, and dress—was