occurrence in the last edition of Gruber's work, and a quotation from the same by Steinbrügge, the matter does not seem to be alluded to in otological literature. I therefore make no apology for describing the following case:—

A middle-aged woman presented herself at the infirmary with a history of sudden deafness in the left ear of a fortnight's duration. On testing the hearing, the watch was not heard close to the left ear. On examination, the deeper portion of the meatus was seen to be entirely filled by a greyish tumour of tense appearance, and presenting on its surface ramifying vessels. On touching it with the probe, it was found to be insensitive, and seemed to fluctuate very distinctly. There was no history of pain or traumatism. These facts enabled me to suggest that the growth was a cyst arising from the upper and anterior part of the osseous meatus. I accordingly punctured the swelling and evacuated an apparently serous fluid. On examination afterwards the walls were seen to be entirely collapsed, and the seat of origin from the anterior superior part of the osseous meatus was manifest. Immediately afterwards the watch was heard clearly, and a whisper at 12 feet so that the patient declared she heard quite well. In this, however, she was mistaken, as shown by the amount of the hearing power and by the evidence of chronic changes in the drum membrane. She was kept under observation for several days, but no tendency to recurrence took place.

The chief interest in this case centres in the fact that a cyst arose apparently spontaneously in a situation in which it is usual for histologists to deny the existence of gland structures of any kind. Manifestly many hypotheses are conceivable, but it seems useless to speculate upon probabilities where no proof is attainable.

FIFTY CASES OF LEFT INGUINAL COLOTOMY, WITH REMARKS ON THEIR POINTS OF SPECIAL INTEREST.¹

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In giving an account of my first list of fifty cases of left inguinal colotomy, it is my intention not only to record the successes, but also to point out what I consider to have been defects, in the operation of inguinal colotomy as practised by me. I shall also show that the experience I have gained from these cases has enabled me to see how to remedy these defects.

I have further performed several right inguinal colotomies, but I do not propose to include those in this list. The same remark applies to my cases of lumbar colotomy. I have not performed this operation in many instances, for from the result of my own cases and of the cases I have seen under the care of other surgeons, I consider lumbar colotomy to be far inferior, generally speaking, to inguinal, both from the surgeon's point of view, and as regards the present and future of the patient. I am aware that the advocates of lumbar colotomy have published many cases, and that they have never admitted that there are any drawbacks whatsoever in the operations.

To me this is unaccountable, for from my own cases and others which have come under my notice it is plain that lumbar colotomy is attended with many disadvantages. These defects must have been noticed by other operators, but they have been ignored entirely, and the performers of lumbar colotomy have confined themselves to an unstinted laudation of their own method.

Statistics compiled and records published in such a manner can surely be of little or no value, for the only way to arrive at any true and valuable inference is to admit freely both the advantage and disadvantage of respective operations, to weigh them together, and to decide in favour of that method which has the least defects and the greatest merit; thus only can patients be treated in the best and soundest manner.

There is no doubt that lumbar colotomy, as well as inguinal colotomy, possesses its own peculiar advantages, and is of

excellent application in certain conditions for which it is fitted. But the choice between these two operations does not lie within the scope of this paper; it will receive full treatment in other works on the subjects which I have now in hand.

I now turn to my own immediate business, inguinal colotomy, and various points connected with the operation, which I shall discuss in the order indicated upon the diagram of cases, and these are:

1. *The nature of the disease.* 2. The ordinary inguinal colotomy as I perform it, and the occasions for the use of the supplementary operation which I have previously advocated in the BRITISH MEDICAL JOURNAL. 3. The length of the sigmoid mesentery. 4. The spur. 5. Prolapse after the operation from the upper or the lower end, or from both ends. 6. The action of the bowels, and from which end. 7. The result, that is, the duration of life after the operation.

1. It will be noticed that in my fifty cases malignant disease was by far the most frequent cause that necessitated the operation, for to it 41 cases were due; the remaining 9 cases were operated upon for ulceration with stricture, often combined with fistula so commonly associated with those diseases.

2a. *The operation as I perform it.* The distinctive feature of my own method is the extreme importance I attach to the procuring of a good spur, so as to prevent faeces passing beyond the inguinal opening into the rectum, and thus further irritating the diseased condition for which the operation is done. This question of the spur will be treated of under my fourth head.

I will now give a brief account of my method which I have so often described in detail. An incision not more than 2 inches in length is made about $1\frac{1}{2}$ inch inside the left anterior superior spine of the ilium. This I have found from anatomical research to be the best spot. The abdomen is opened, and a sponge is then introduced to keep the intestines and omentum from prolapsing, while the parietal peritoneum is sewn to the edges of the skin wound. This being done a good loop of the sigmoid is drawn out (Fig. 1), and a stitch is put through the skin on one side, then through the mesentery behind the bowel, back again through the mesentery, and is then tied to the end of the suture which has passed through the skin. When this is tightened it keeps the peritoneum of the mesentery against the parietal peritoneum and quickly adheres; thus the gut is prevented from slipping back. Then in several places around the gut is fixed by the passage of sutures through its peritoneal and muscular coats to the skin. This is one of the simplest of all the forms of operation that have been proposed and can be easily performed in fifteen minutes.

Fig. 1.

The gut next day is opened, or, if there be no distension, it can be left for three or four days, according to the condition of the patient. In a week's time, if the walls of the divided gut be too prominent, they can be cut off with scissors flush to the skin.

2b. *The supplementary operation*, as I term it. This is done to prevent prolapse of the gut through the opening, which may occur every now and then, and, if the patient is likely to live long, may be a source of great annoyance and discomfort.

It will be seen that I had performed my first eight cases

¹ Read before the Medical Society of London.

before I began to appreciate that there was a great danger of prolapse, and that then I commenced to devise this supplementary operation.

Prolapse is undoubtedly due to a lengthy mesentery which allows the gut above and below the inguinal opening to prolapse from its upper or the lower end, or even from both ends. The gist of my further operation is this: When the belly has been opened and the parietal peritoneum has been stretched to the skin the gut is drawn out and is pulled upon till it is taut above, and, similarly, till it is taut below; in other words, I pull out all the slack portion of the gut, which in cases when the mesentery is lengthy may amount to many inches. All the portion that has been drawn out is then fixed outside the belly, as is done in the ordinary operation (Fig. 2).

Fig. 2.

In two or three days the gut is opened so as to allow the exit of wind, and, in a week or so, all the gut outside the belly is clamped with my spiked clamp close to the skin, and the portion above the clamp is cut away (Fig. 3). In some cases the

Fig. 3.

part removed has been a foot long and has weighed more than 6 ounces. The clamp is left on for twenty-four hours, and is then removed, no bleeding occurring.

It will be noticed that in Cases 9 to 13 I did this operation in all instances, whether for malignant disease or for non-malignant strictures. I then began to think that this proceeding was rather too severe in advanced cases of cancer, in which the patients had not long to live, and any prolapse was therefore of minor importance. In such cases I grew to hold it unnecessary to subject patients to any more pain and trouble than was absolutely required. Such considerations led me to reserve this supplementary procedure for cases of simple stricture where the patients might live for years, and it was important to prevent any discomfort and more or less constant prolapse.

Still, inasmuch as my clamp does away with any risk of hæmorrhage, I am not afraid to perform this supplementary operation in selected cases of malignant disease. Out of my 50 cases 14 have been treated in this manner with perfect success as regards any after-prolapse; out of these 7 were performed for malignant disease, 3 of them being done before I considered the question, and the other 7 for ulceration with stricture. I may note that in spite of the supposed danger of this supplementary operation not one patient died from it.

3. *The Length of the Mesentery.*—For purposes of description and classification I divide mesenteries into long, medium, and short; by long I mean cases in which the mesentery connecting the sigmoid with the iliac fossa is at least 5 inches in length, or even more. In such cases there may be some difficulty in finding the gut from the inguinal opening, but I myself have never experienced any trouble, for I pass my finger up towards the kidney where the gut is fixed, or down to the rectum, where it is also fixed. I thus trace it up or down to the sigmoid. In 17 of my cases the mesentery was long. By a medium mesentery I mean one the length of which is at least 2 or 3 inches, so that it is possible to pull the gut well out of the wound, and to make a good spur; there were 25 of this class of mesentery. By short I designate cases in which there is practically no mesentery at all, and it is therefore difficult to fix the gut to the skin. Of even more importance is the circumstance that there is no possibility whatsoever of passing a needle behind the gut and so forming a good spur; indeed, no spur can be made. Thus the patients are left in a miserable condition, for some of the fæces pass beyond the opening in the inguinal region towards the growth. Further, in patients who are fat it is very difficult to fix the gut to the skin, and even if the gut has been fixed any vomiting or coughing may tear away the sutures, and the gut may slip back into the abdominal cavity. This actually occurred in Case 21. There were 8 instances of a short mesentery.

4. *The Spur.*—To procure a spur means to fix up the gut (by the mesenteric stitch) in such a manner that no fæces can possibly pass from the upper part of the intestine beyond the inguinal opening into the portion of the gut below the opening. Such passage of fæces will only further irritate the malignant growth or innocent stricture. Unless such a spur has been obtained I consider the operation to have been a failure. This is particularly the case at the present time, when inguinal colotomy is done much earlier than formerly, and when one of the main objects of the operation is to relieve or allay this very irritation. If through neglect to make a spur this irritation is maintained or even aggravated, and the concomitant diarrhoea and pains are not stopped, we shall merely have added to the patient's discomfort, for he will have a fæcal fistula in the groin instead of a complete and perfect artificial anus intended to relieve the irritation of the rectum below the opening. This matter is so exceedingly important that I must be allowed to distinguish clearly between a fæcal fistula and an artificial anus.

A fæcal fistula is an opening into a piece of gut communicating with the surface of the body from which fæces issue, but at the same time some of the fæces pass beyond the fistula into the distal portion of the gut. An artificial anus is an opening in which all the fæces pass through the opening on the surface of the body, and none whatever pass into by the distal portion of the gut.

Now if inguinal colotomy is performed and no spur is made we have a condition of fæcal fistula, for fæces pass both by the inguinal opening and also into the distal portion of the gut. When, however, a spur is made all the fæces pass through the opening in the groin, and more can enter into the distal end of the intestine; thus any fæcal irritation of the growth is entirely prevented.

I have tried to put this matter in a clear light, because some surgeons deny the necessity of making a definite spur, and therefore in my eyes their operations fail in an exceedingly important point. It will be observed that in 9 out of my 50 cases no spur was formed. In my first 3 cases I had not come to appreciate the importance of the spur, and therefore did not attempt to make one; in fact I did not use the mesenteric stitch. In the other 6 cases, namely, Cases 21, 22, 28, 37, 42, and 45, the mesentery was of the short variety, and no spur was procurable. In these instances the patients' anatomical peculiarities were the reason of their suffering discomfort from fæces occasionally passing *per rectum* as well by the inguinal opening, and thus causing pain and irritation.

5. *Prolapse from the Inguinal Opening.*—This may occur either from the upper end of the gut, that is, of the part which is continuous with the descending colon or from the lower end, that is, of the part leading to and continuous with the rectum; sometimes indeed there may be prolapse from both

Fifty Cases of Left Inguinal Colotomy.

No.	Name.	Nature of Disease.	Supple- mentary Opera- tion.	Length of Mesentery.	Spur.	Prolapse from Upper or Lower End or from Both.	Action of Bowels from Upper or Lower End.
1	Mrs. T. C.	Stricture, ulceration, and fistulæ	No	Medium	No	No	Upper and by rectum.
2	Mrs. A. H.	Malignant disease	"	Long	"	"	"
3	Mrs. E. C.	"	"	Long	"	From upper and lower end	"
4	Mr. I. J.	"	"	Medium	Yes	No	" Upper."
5	Mrs. B. J.	"	"	"	"	Slight from upper and lower	"
6	Mr. F. C.	"	"	"	"	No	"
7	Mrs. S. C.	"	"	Long	"	Slight from upper	"
8	Mrs. F. G.	"	"	"	"	Very bad from lower end	"
9	C. S.	Stricture and ulceration	Yes	"	"	No	"
10	Mr. C. B.	Malignant disease	"	Very long	"	"	Lower.
11	Miss A. T.	"	"	Long	"	"	Upper.
12	K. T.	Stricture, ulceration, and fistulæ	"	"	"	"	"
13	Mr. A. Z.	Malignant disease	"	Very long	"	"	"
14	Mr. W. M.	Malignant disease of rectum & bldr.	No	Medium	"	"	"
15	A. D.	Stricture and ulceration	Yes	Long	"	"	Lower.
16	S. R.	Malignant disease	"	Medium, adherent omentum	"	"	"
17	D. C.	Stricture, fistulæ, and ulceration	"	Long	"	"	"
18	M. H.	Malignant disease	No	Medium	"	Slight from upper and lower	Upper.
19	K. G.	"	"	"	"	No	Lower.
20	J. T.	" Malignant	"	"	"	Lower	Upper.
21	S. W.	Stricture and ulceration	"	Very short	No	No	Upper and by rectum.
22	W. F.	Malignant disease	"	"	"	"	"
23	A. H.	"	Yes	Medium	Yes	"	" Upper."
24	Mr. R. B.	"	No	"	"	Upper	"
25	Mrs. J. W.	"	Yes	"	"	No	Lower.
26	Mrs. T. J.	"	No	Long	"	Lower	Upper.
27	Mr. T. D.	"	"	"	"	From upper and lower	"
28	Mr. B. L.	Malignant, obstruction, paralyd.	"	Short	No	No	Upper and by rectum.
29	Mr. G. A.	Malignant disease	"	Medium, adherent omentum	Yes	"	Lower.
30	T. B.	"	"	Medium	"	Slight upper and lower	Upper.
31	M. G.	"	"	"	"	No	"
32	N. O.	Malignant disease, obstruction	"	Short	"	"	Upper and by rectum.
33	R. H.	Malignant disease	"	Long	"	Lower very bad	Upper.
34	T. D.	"	"	Very short	"	No	Upper and by rectum.
35	N. T.	"	"	Medium	"	Slight from lower	Upper.
36	E. R.	"	"	"	"	Upper	"
37	Mr. M. R.	"	"	Short	No	No	Upper and by rectum.
38	Mr. J. C.	"	Yes	Long	Yes	"	Upper.
39	Mr. T. P.	"	No	Medium	"	"	"
40	Mr. G. T.	"	"	"	"	"	"
41	M. D.	Stricture and ulceration	Yes	Long	"	"	"
42	M. G.	Malignant disease	No	Very short	No	"	Upper and by rectum.
43	A. D.	Stricture, tuberculous (?)	Yes	Medium	Yes	"	Upper.
44	Mr. K. B.	Malignant disease	No	"	"	Slight from upper	"
45	Mr. C. P.	"	"	Very short	No	No	Upper and by rectum.
46	E. P.	"	"	Medium	Yes	"	Upper.
47	E. C.	Stricture and ulceration	Yes	"	"	"	"
48	C. A.	Malignant disease	No	Long	"	Slight from upper and lower	"
49	Mr. T. A.	"	"	Medium	"	Slight from upper	"
50	Mr. T. G.	"	"	Long	"	From lower	"

ends at the same time. I have already observed that it is of far more importance to prevent this condition when patients are likely to have a fairly long lease of life, and it is on that account that I devised the supplementary operation already described. Now we know (and my own cases lend corroboration) that prolapse occurs only when there is a long mesentery which enables the gut to intussuscept through the part of the gut which has been fixed, that is, sewn to the belly wall. I arrived at this conclusion from noticing that where there was a short mesentery there was no prolapse. Again, whenever I had performed the supplementary operation, that is, whenever I had drawn out and removed the slack portion of the gut, there was also no prolapse.

To obviate this prolapsed condition, Mr. Cripps has advised that the gut should be pulled down until it is taut upon the upper end, and that all the slack portion should be returned into the belly, and then the gut be stitched up to the skin wound. No doubt this is a good method, for there can then be no prolapse from the upper part of the gut. Nevertheless this plan does not prevent prolapse from the lower part of the intestine where the mesentery is long. However, the suggestion is of much value, and should always be carried out in malignant cases when the supplementary operation is not advisable. Lastly, I have seen prolapse occur from both ends at the same time, not only in my own cases but in those of others.

Prolapse took place in 17 out of my 50 cases—in 5 out of the 17 from the upper end alone, in 6 out of the 17 from the lower end alone; in 6 of the 17 from the upper and lower end together. In all these cases the mesentery was either long or medium in length, though the prolapse did not occur in every instance

of a medium-sized mesentery. Further, prolapse did not take place in any case when the supplementary operation had been performed in spite of the great length of the mesentery in a large number of these instances.

6. *The Action of the Bowels whether from the Upper or from the Lower End of the Double-barrelled Opening resulting after my Operation.*—Though the circumstance may seem strange, still in 7 of the 50 cases the bowels acted from the lower of the two orifices. This is to be explained by the fact that the gut was twisted when it was pulled up into the inguinal opening, and fixed there.

In most of these cases the mesentery was long; in some cases it is reported to have been medium, but it may have in reality been long, but have been rendered of medium length by the twist. This twisting is curious, but is also important from an operative point of view. For some surgeons have suggested division of the gut, to be followed by dropping the distal end into the belly, and fixing only the proximal end to the skin. Now if the gut is twisted, the operator may sew up the upper end and drop it back, fixing up the lower end in the belief that it is the upper end. Needless to say, such a mistake would result in the patient's death. Such a case has actually come within my notice.

The importance of the spur is further instanced in this matter of the action of the bowels. In Cases 1, 2, and 3, in which I did not attempt to make a spur, and in those other cases in which the mesentery was so short that no spur was attainable, the bowels acted from the inguinal opening and *per rectum* also—namely, in Cases 21, 22, 28, 32, 34, 37, 42, 45. Thus in 11 cases the patients were occasioned some distress, and the operation, therefore, was not a complete success.

Out of 50 inguinal colotomies: 36 inguinal ordinary operations, 14 supplementary operations; 17 mesentery was long, 25 mesentery was medium length, 8 mesentery was short; 9 cases was no spur; 17 prolapse took place; 5 out of the 17 from upper end alone, 6 out of the 17 from lower end alone, 6 out of the 17 from both ends together. The gut was twisted when fixed up, so that the bowels acted from the lower of the two openings in 7 out of 50 cases.

7. *The Result of the Operation and the After-Duration of Life.*—The results of inguinal colotomy may be divided into several classes. If the patient lives for fourteen days after the operation he may be said to have recovered from the effect of the operation pure and simple, as in inguinal colotomy generally the wounds heal quickly. As a matter of fact, the duration of life is very difficult to ascertain, for patients often go away, and there is therefore no possibility of learning whether they have died speedily or have lived for a considerable period. Applying the fourteen days' limit, I have lost only 2 cases, namely, Cases 21 and 32.

In Case 21 the mesentery was very short, and there was great difficulty in fixing it to the skin. Moreover, a few days later the patient, who was very fat, developed bronchitis. In a fit of coughing some bleeding took place from the wound, and the house-surgeon, who was unable to find the bleeding vessel, applied pressure; thereupon, from the pressure and the coughing combined, the gut was torn away from the inguinal opening and fell back into the belly. Faeces then escaped into the abdominal cavity, and in a few hours the patient died of peritonitis.

I now think that in Case 32 it would have been wiser to have done lumbar colotomy. From the five weeks' obstruction the intestines were greatly distended; hence from the distension of the large intestine it was next to impossible to get the gut well to the surface from the small inguinal opening. Further, the distension made it almost impracticable to sew the gut to the skin without perforating the mucous coat, and thus allowing flatus to leak into the peritoneum. Fortunately I escaped this misadventure; but after the operation, in consequence of the patient vomiting, the small intestines in their distended state were forced through the wound, tearing away the sutures which fixed the large intestine to the inguinal incision.

In these cases of great distension it is imperative to open the gut at once, and thus there is a danger of faeces finding their way into the peritoneal cavity. Now when lumbar colotomy is performed in such cases, the gut is pushed into the loin, and the posterior part, which is uncovered by peritoneum, is freely exposed by the distended gut separating its peritoneum at the back part. Thus the intestine can be opened on its non-peritoneal surface without any dread of the peritoneum being damaged, and as soon as it has been opened and relieved of its distension it can be drawn to the loin and stitched there.

I have now pointed out all the difficulties which I have experienced in these my first 50 cases of inguinal colotomy. I have reason to hope that my observations and inferences may be of interest and of practical use to others.

INFLUENZA: NOTES ON A RECENT EPIDEMIC AT JAMES MURRAY'S ROYAL ASYLUM, PERTH.

By FRANK HAY, M.B.,
Assistant Medical Officer.

In the beginning of last November influenza, then so prevalent in the district, came within the asylum bounds, and during that and the following month attacked 55 persons out of a resident population of 191. Within the same period there were 20 cases of quite a rudimentary or abortive type, which, though doubtless due to the same infection, were of such trifling import, being what one might term "influenzoid," that they have been omitted in the following record. Whether *post hoc ergo propter hoc* or not it is hard to say, but we noted during these months a vast increase of petty ailments—colds, headaches, neuralgias, in one case the awakening of a dormant chronic rheumatism, and in another there was a long-con-

tinued subnormal temperature, ending in dry pleurisy, without rise of temperature above the normal point.

The average resident population at the time was thus divided:

	Males.	Females.	Total.
Insane	51	56	107
Sane { Adults	29	38	67
{ Children	5	12	17
Total	85	156	191

Of these attacked were:

	Males.	Females.	Total.
Insane	15 (29.4 percent.)	21 (37.5 percent.)	36 (33.6 percent.)
Sane { Adults	4 (13.8 "	9 (23.7 "	13 (19.4 "
{ Children	6 (17.6 "	13 (26.0 "	19 (22.6 "
Total	21 (24.7 percent.)	34 (32.0 percent.)	55 (28.3 percent.)

Here it will be seen at a glance that the percentage of females attacked is greater than that of males; and still greater is the comparison between that of the insane and sane—a disproportion more striking if the children be omitted.

Infection and Incubation.—In the main building, on the female side, the epidemic was a month in advance of the male side; and though isolation and disinfection were observed, was most irregular in distribution. On the male side, however, there was more regularity, and, in a well-ventilated gallery of 13, 9 were attacked in an equal number of days, 8 of these being the first victims in this department. In one of the lodges the whole family (7) were laid up, while in other parts, in space as limited, only one or two of about half-a-dozen occupants suffered. Despite our advantages of observation we can arrive at no conclusion with regard to the duration of the incubation stage. One case, the first in a branch establishment, manifested symptoms three and a-half days after the last exposure to infection. At the first signs of *malaise* the temperature was taken, and thereafter regularly noted in anticipation. Thus, in one case, the temperature rose, etc., after a week of *malaise*; in two others, two and a-half days prior to the malady, there was vomiting and faintness; in one of these in addition there was marked mental deterioration. Another patient, during a period of moderate excitement, became dull and listless for two and a-half days before symptoms were established; and two others vomited and felt faint thirty-six hours previously. In the remaining 48 cases there was nothing remarkable.

Onset.—This, regarding the above as incubatory rather than as examples of suppressed pyrexia, was in all more or less sudden, and was ushered in with the usual febrile symptoms. In 10 cases vomiting (in 1 most urgent) was a prominent initiatory symptom. In 3 during the first evening there was delirium—all temperate subjects; in 1 case there was epistaxis.

Progress.—All the well-known symptoms were present in irregular combinations, which, as none could be regarded pathognomonic, it would be worthless to detail. The duration even of "uncomplicated" cases was most varied, and ranged from 24 and 36 hours to 17½ days. In the prolonged cases there were several marked remissions, lasting for 12 hours and longer. Taking an average of the times at which the first remission occurred, we found it to be just before the fourth day, significantly the time when the fever usually subsides.

Temperature etc.—In more than half the cases this was highest on the first day, in the next greatest number on the second, and in a few scattered cases between the third and eighth. The course of the pyrexia was, as a rule, only moderately febrile, and the average of the highest temperatures reached in each case was 102.2°. This calculation does not include the children, in whom the pyrexia was highly febrile. In three cases the temperature became markedly subnormal at the end of the