A CASE
OF
LUMBAR COLOTOMY
(AMUSSAT'S OPERATION)
SUCCESSFULLY PERFORMED FOR THE RELIEF
OF A VESICO-INTESTINAL FISTULA.

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THE following case bears a considerable analogy to one published in the 33rd volume of the 'Transactions' of this Society, in which Mr. Pennell, of Rio Janeiro, operated with success upon a patient in whom a very large communication had formed between the rectum and the urinary tract, allowing of the passage of large substances into the urethra from the rectum, and of the discharge of all, or nearly all, of the urine into the gut. In that instance the patient laboured under stricture both of the rectum and of the urethra, and the latter disease had resisted all endeavours

to pass an instrument. In the case which I am about to relate, no such complication existed; the bladder was perfectly healthy, except for the irritation caused by the fæces passing into it: the disease was evidently seated in the intestine, and was to be dealt with, if at all, by measures directed to the intestine. I was not, at the time, aware of the occurrence of Mr. Pennell's case; but the symptoms were so urgent, and the man was so anxious to obtain relief, at the expense of any operation that could be recommended to him, that the treatment pursued by Mr. Pennell was almost irresistibly suggested, although there was no perceptible stricture of the intestine, as was the case in Mr. Pennell's patient.

In the following paper I shall first give a short account of the case of my own patient, and then refer to a few similar recorded instances of communication between the bladder and some part of the bowel. More, of the same kind, might, no doubt, be discovered by a search through museums and books: but the catalogue would be somewhat wearisome; and those which follow will, I hope, be sufficient to establish the three following points, viz.:

1. That ulcerated openings sometimes take place between the bladder, and either the large or small intestine, many of which have no connection with previous stricture of the gut, still less with cancer:

2. That in those cases in which the fæces discharged into the bladder come from the lower gut, and are consequently more solid, great suffering is produced, and the formation of calculus in the bladder becomes exceedingly probable:

3. That in such of these cases as are not dependent on malignant disease, colotomy, by diverting the fæces from the fistulous channel, may enable the latter to close, and thus relieve the patient's sufferings, and restore him to a condition of health and of comparative comfort.

Before entering on the particulars of the case, I ought to state that the patient was under the care of my friend Mr. Faithorn, of Chesham, to whom the original suggestion of the operation is due; and to whose kind assistance I was

much indebted during the operation, and for the success of the after-treatment.

CASE.—John B—, æt. 51, a shoemaker, small and of spare habit, had been suffering under symptoms of obstruction of the bowels for more than four years. It did not appear that he had ever been examined surgically during the earlier part of that time. At a recent period, it was said that his rectum had been inspected by means of a speculum, and that a tumour had been brought into sight. About three months before I was called to see him, the first symptoms of ulceration into the bladder occurred. They were preceded by pain, referred to the pelvis; then flatus, and, lastly, fæces, passed from the urethra. The quantity of fæces had so greatly increased, that he now experienced very great difficulty in unloading the bladder. The operation of micturition took him a very long while, as he was obliged, as it were, to milk the fæces out of the urethra. He was in great pain and distress, and was losing flesh rapidly; but this appeared the mere effect of the local disease, for his general health was otherwise satisfactory. Examination of the parts showed but little. There was no difficulty in passing the catheter. There was no unnatural sensation in the rectum, so far as the finger could reach; nor could Mr. Fairthorn and myself discover the tumour which had been said to be in sight through the speculum. On this account, we could not help feeling some little doubt as to the locality of the perforation in the wall of the intestine, as it might possibly proceed from adhesion between a coil of small intestine and the bladder. However, the persistent symptoms of obstruction, together with the uninterrupted good health that the patient had enjoyed previous to the formation of the opening into the urinary tract, appeared inconsistent with disease high up in the canal; and the matters discharged by the urethra resembled the contents of the large intestine.

It might have been possible to obtain some information as to the seat of the obstruction or perforation in the bowel

by filling it with fluid. This measure, however, seemed somewhat hazardous, in our entire ignorance of the nature of the parts surrounding the opening in the gut, since any considerable distension of the bowel might have had a disastrous effect in tearing the ulcerated portion. The urine had passed for several months partly per anum, which again was a strong argument for supposing that the opening was low down in the intestine; so we decided to act upon the assumption that the opening was in the lower part of the large intestine; and, as the man was anxious to submit to any operation which would give him a chance of relief, it was agreed to open the descending colon. I anticipated a good deal of difficulty in the operation, since there was no distension of the bowel—on the contrary, the fæces seemed to be continually escaping; but the same reflection which led us to abandon the idea of injecting a quantity of fluid into the gut with a view to diagnosis, also deterred us from adopting the same measure with a view to distend the colon; viz., that as we did not know the position or state of the ulcerated opening in the intestine, it would be hazardous to do anything which might cause a laceration of its edges.

On June 17, 1865, I proceeded to perform Amussat's operation, under chloroform. Considering the small size and spare habit of the patient, a great mass of muscle had to be divided before the sub-peritoneal tissue was reached. After the division of the muscles, a shining, serous-looking membrane came into view, but was easily known from peritoneum by its position with respect to the kidney (the end of which could be felt above it), and the fat which was seen shining through it. It was at first impossible to find the gut; but, after a careful search, the colon was recognised, lying close upon the spine. The position of the gut was ascertained by means of two small masses of fæces which were felt in it. It was then drawn to the surface with a pair of dressing-forceps, secured by sutures, and opened pretty freely; no fæces or air escaped. The finger passed downwards into the gut from the opening did not come upon any tumour or other evidence of disease.

When he was next seen, about an hour after the operation, nothing had passed from the artificial anus ; but fæces had passed by the urethra. This, however, was by no means inconsistent with the idea that the opening into the bowel was above the diseased part, since the lower part of the bowel was full of fæces at the time of the operation, and these must necessarily pass downwards. The unnatural position and great depth of the bowel we referred, at the time, to adhesions which had connected some lower portion of the gut to the bladder, and thus displaced its upper part.

He complained of a good deal of pain with dragging in the wound during the night ; but it was moderated towards morning, and he obtained some snatches of sleep. Throughout the next day he was easier, and had little tenderness or distension of the abdomen ; and though feeling nausea, did not vomit. Fæcal matter escaped from the artificial anus.

From this time nothing occurred to call for daily notes, the symptoms connected directly with the operation being remarkably slight.

On July 7th, it is noted that he was well enough to come down stairs, and that the motions had passed entirely by the artificial anus since the day of the operation, except on two occasions, when some fæcal matter had passed beyond the opening, and escaped both by the anus and urethra, causing him a good deal of distress. He expressed himself as greatly relieved by the operation.

16th.—I saw him again for the first time since the operation. He had certainly improved in health and in appearance ; but some little trouble had occurred in the management of the artificial anus. In order to avoid the escape of fæces into the lower portion of the intestine, and to provide a free passage for them outwards from the upper portion, a gutta-percha tube had been inserted into the upper end of the gut, *i. e.* into the transverse colon, for the opening was situated directly below the splenic flexure. But this tube, though at first it fulfilled its purpose, could not be kept in position, but slipped round the angle formed by the two portions of the gut ; and at the time of my visit

I found it lying in the lower or descending portion of the colon. Thus it served as a guide for the fæces into the lower bowel, and aggravated the mischief it was intended to remedy. A good deal of fæcal matter had passed into the lower bowel and bladder since the last note, causing him much distress. It was agreed to renounce the use of the tube, and to wash out the upper part of the bowel daily with an injection of warm water passed into the transverse colon, by which it was hoped that the upper part of the bowel would be daily unloaded, and that little or no fæces would pass at other times. This, however, did not prove to be the case. The fæces still passed at irregular intervals, but no longer into the lower part of the bowel. The artificial anus being left to itself, merely covered with a pad to keep the man's clothes clean, the upper portion of the gut began to protrude; and thus a projection of mucous membrane (the '*éperon*' of Dupuytren) was formed, which covered the mouth of the lower part of the bowel, and guided the fæces out at the opening. After the last note, no motion passed into the rectum or urethra, though some of the urine still passed from the anus.

The man gained much in strength, colour, and flesh, and had no complaint except of occasional pains in the lower part of the belly, from which he obtained relief by small doses of laudanum.

He was admitted into St. George's Hospital on September 15th, in order to be fitted with an apparatus to catch the fæces, and remained there for about six weeks. His general health was perfect, but he still complained occasionally of pain referred to the pelvis. His urine was perfectly natural. No fæces passed either by the urethra or anus.

After having been fitted with an apparatus, he was sent back into the country, but returned in January, 1866, in order to have the instrument altered, as it did not fit perfectly. His general health was still very good; he still complained occasionally of flying pains about the pelvis. Some water still passed, though only occasionally and in small quantities, from the rectum; but he was not sensible

of any air passing from the urethra, nor of any fæces in the urine; and the latter, being repeatedly examined, showed no trace of fæces. An opportunity was taken of examining the rectum by means of the endoscope. The surface was smeared with slimy and offensive mucus, but no disease could be detected; though the patient was brought under the action of chloroform (in consequence of his extreme sensitiveness), and the instrument passed as far as it would reach. There was no difficulty in doing this.

When discharged (February 21) he reported that no urine had passed per anum for a fortnight. The bowels acted at very irregular intervals, so that he was obliged to wear the apparatus night and day; with this his clothes were kept quite clean, and the only unpleasantness to those around him was a certain fæcal odour which hung about him.

In considering the general question of the propriety of performing Amussat's operation, it is of importance to bear in mind the fact that it may be performed in two very different classes of cases, and for objects which are also essentially different. Thus it usually is performed in cases of malignant disease, at the period of impending death, with a view of prolonging the patient's life and rendering it more tolerable; but with the certainty that the disease is in its nature both incurable and progressive, and will lead in a more or less short period to death inevitably. This is not the class of cases which I wish here to discuss, nor will I dwell upon the question whether the operation is justifiable in such cases. I will content myself on this head with remarking that the operation appears to be indicated on every ground, both of prudence and humanity, in the more slowly advancing forms of malignant disease; and that there are plenty of cases on record which show that in some instances the patient may pass a comfortable existence of several months—even in one case (recorded by Mr. Curling in the 'London Hospital Reports,' vol. ii, p. 11) as much as two years and a half.

My object in the present paper is not to deal with the operation as a palliative for the last stage of malignant disease, but to point out that there are states of the intestine, otherwise probably fatal, in which an opening made above the seat of the lesion may be curative, as far as the patient is concerned—that is, may enable him to live out the ordinary term of life, and die of some other disease. These are cases of obstruction depending on simple stricture, and cases of ulceration leading to vesico-intestinal fistula. I do not believe that the two pathological conditions are necessarily identical—that is to say, that the fistula is always the result of stricture—for reasons which I will presently state.

As to the treatment of simple stricture of the rectum by colotomy, I have no experience hitherto. I performed the operation a short time ago, in a case of stricture which appeared after death to be non-malignant; but the patient unfortunately died from the direct results of the operation. Mr. Curling informs me that he has recommended the operation in two cases, but it was declined.

The diagnosis between simple and malignant stricture, when the disease is seated at some distance from the anus, out of the reach of the ordinary means of examination, is always obscure; but the occasional occurrence of stricture unconnected with cancer is certainly an encouragement to recommend colotomy in obstruction situated near the sigmoid flexure, when the symptoms of cancer are not well marked.

The most ordinary cause of permanent communication between the intestines and the urinary passages is the breaking-down of cancer situated in or between the viscera; but numerous other cases of such communication are on record, and several of them will bear out the view which I have here advanced, viz., that such fistulæ occasionally form without any previous stricture. More or less of obstruction to the action of the gut may indeed have been noticed; but this is no more than occurs in ulceration of the œsophagus, where dysphagia frequently exists independent of any mechanical obstacle.

I will give a short summary of such of these instances of communication between the bladder and intestines as may be necessary to illustrate the above case.

1. In the 'Transactions' of this Society, there are two cases of intestino-vesical fistula which must be referred to. The first was under the care of Mr. Charles Hawkins (vols. xli, xlii). In this patient, the appearance of fæces in the urine was preceded by no symptom of obstruction of the intestines; and, after death, though much constriction of the gut around the abnormal opening was found, it appeared to depend upon the cicatrisation of the old ulceration (vol. xlii, p. 424). The communication was between the bladder and the sigmoid flexure of the colon, and the fæces passing into the bladder had given rise to the formation of calculus.

2. The second is the case related by Mr. J. Morgan in the last volume of the 'Transactions.' Here also the formation of the swelling in the iliac and lumbar regions which was caused by fæcal communication between the bladder and intestine, was preceded by no symptom of obstruction; nor after death was any tumour or stricture found. The bladder in this patient communicated with a coil of small intestine.

3. A third case is reported by Mr. Sydney Jones in the tenth volume of the 'Transactions' of the Pathological Society. This case was also examined after death, and here also the gut was equally free from all appearance of tumour. The communication was between the bladder and sigmoid flexure of the colon. Death in this case was caused by the irritation of the fæcal matter in the bladder, giving rise to vesical calculus and extravasation of urine.

4. Another case in which the communication is between the great intestine and the bladder is illustrated by a preparation in the Museum of St. Bartholomew's Hospital, ser. xvi, No. 72. The patient was a man eighty-five years of age, who died of asthma. No complaint had been made of any disease of the rectum or bladder till a week before his death, when air began to pass by the urethra, and

thenceforward both air and fæces passed with his urine, the latter chiefly in small masses about the size of peas. After death, a part of the rectum, eight inches from the anus, was found deeply ulcerated ; and this portion of the gut was connected with the bladder by means of "thickened and indurated tissue," (the term appears to denote that it was not a new formation, and the whole description is evidently meant to imply the absence of cancer), and the ulceration had spread through this tissue, so as to form a wide communication between the bladder and rectum. The fact that the communication formed only during the last days of life precluded the possibility of calculus being formed.

In the 'Lancet,' 1864, vol. ii, p. 373, Mr. Moore has put on record a case in which the jejunum communicated with the bladder, and the patient laboured under vomiting and other symptoms of deranged digestion, attributed by Mr. Moore to the admixture of urine with the contents of so high a part of the intestine. This man suffered a good deal of pain in passing water, and so much straining that he was obliged always to pass fæces at the same time. The symptoms of inflammation of the bladder appear to have been considerable ; so that the mixed urine and fæces became at length black and almost viscid. Death seems to have been caused partly by this inflammation, but mainly by the disturbance of the digestive functions already referred to, and by congestion of the brain.

It is sufficiently apparent from these cases, that simple ulceration may lead to perforation of the gut in various situations with or without previous stricture ; and that, in some instances, this will cause the discharge of the contents of the bowel into the bladder, and in others the discharge also of urine from the anus. The cases also show us the three parts of the intestine which are most liable to be affected—viz., the rectum, the sigmoid flexure of the colon, and the small intestine. In those cases in which the communication is with the large intestine, the patient usually

experiences great distress, and more or less obstruction to the flow of urine, from the presence of lumps of fæces. Inflammation of the bladder follows, by which, very probably, the size of the communication is increased, and larger scybala are admitted into the bladder; thus increasing the patient's distress, and leading sooner or later to the formation of stone. When this event has taken place, though lithotrity (as in Mr. Charles Hawkins's patient) may afford relief, prolonged life can hardly be anticipated. No such consequence appears necessary from the passage of the more fluid contents of the small gut into the bladder. If, therefore, a certain diagnosis can be made of the formation of a permanent fistula between the bladder and the large intestine, I believe that the operation of colotomy is indicated, in order at any rate to preserve the patient from the sufferings and dangers of stone in the bladder; and after this operation, it appears highly probable that if the original disease be not cancerous, the fistula will close—at least this was the result in Mr. Pennell's case, as far as we can judge;¹ and it appears very probable that in my case the fistula will close, since the quantity of water which passes is only trifling, and appears to diminish. The closure of the communication would be a conclusive proof that the disease was not cancerous.²

The diagnosis of the precise seat of the lesion in the bowel must perhaps, in most cases, be only conjectural; I cannot say that in my own case I felt quite certain of it. If obstruction has preceded, possibly the quantity of fluid

¹ Pennell's patient came to London several years after the operation, and was seen by many of the leading surgeons of London. The patient's condition in respect of the passage of urine was not exactly noted; but, as the gentleman was in perfect comfort, and actively employed in business, it is unlikely that the urine should have passed into the rectum.

² I saw the patient again in September, 1866. He was in much the same condition, occasionally passing urine per anum, but not any fæces or air by the urethra. He still suffered from pains in the pelvis, and had a slimy discharge with the water and from the anus, as if some ulceration was still in progress.

which could be injected into the gut may have previously given the desired information.

In a doubtful case the diagnosis would rest chiefly on the appearance of the *fæces* which are mixed with the urine, and on the amount of obstruction to micturition which they produce. It was on this test that we relied chiefly in the case which I have related above, and it led us to a correct conclusion. If the *fæces* pass entirely by the bladder, there must be very formidable symptoms of dysuria when the communication is with the large intestine. If, however, any doubt exists, the operation may be regarded as exploratory ; so that the gut would be left unopened and the wound re-closed, if the colon were found collapsed and containing no *fæces*.

The circumstance also of the passage of urine from the bowel is, I think, important in a diagnostic point of view. I have not been able to find, in the account of those cases where the communication has been with the small intestine, any notice of urinous discharge with the *fæces* ; nor does it seem possible that urine admitted into the bowel at a great distance from the anus could be discharged in such a condition as to be recognised ; so that the combination of the above symptoms will, I think, afford a sufficiently sure ground for diagnosis between fistula of the large and those of the small intestine.

Allowing this, can we feel sufficiently sure that the fistula of the large intestine is below the transverse colon ? In answer to this question, I can only say that the probability seems to be very great, on anatomical grounds, that the sigmoid flexure or the upper part of the rectum is the part affected,¹ since those parts of the gut are either naturally in close proximity to the bladder, or may easily be brought into such proximity. It is hardly probable, I should suppose, that the ascending colon could form an adhesion to the healthy bladder. But in all cases of communication at a

¹ In a patient who was under Mr. M'Whinnie's care some time ago, and was also seen by Sir B. Brodie, the communication was thought by the latter to be with the transverse colon ; but the case was not examined after death.

considerable distance from the anus, I should expect the discharge of urine to be unrecognisable; and in such cases great caution ought to be exercised in recommending any operative measure.

In conclusion, I must apologise for the necessarily imperfect nature of this paper. The cases are not sufficiently common to justify the hope that delay would enable me to accumulate experience which should form the foundation of solid and definite conclusions. Much, therefore, of what I have stated above with respect to the diagnostic signs of these rare lesions is conjectural, being founded on the observations of a single case. That case, however, was sufficiently striking to show me that the operation of colotomy may occasionally prove the means of rescue from a state of horrible and disgusting suffering, and, as I believe, of restoration to a state of general health and tolerable comfort.