down into the mobile loop, quite close to its termination. The operation produces no shock whatever, and is followed by an obvious and increasing improvement in the child's general condition within two or three days after the operation.

CHRONIC INTESTINAL STASIS TREATED BY SHORT-CIRCUITING OR COLECTOMY.

A BRIEF STUDY OF THE LIFE-HISTORIES OF FIFTY CASES.

BY HAROLD CHAPPLE, F.R.C.S.

RECOGNIZING the importance of the ill effects on the individual produced by defective drainage of the bowel, and realizing the necessity of a radical treatment in many of these cases, in 1901 Mr. Arbuthnot Lane performed the first of a series of operations for a condition which he has fully described under the title of "Chronic Intestinal Stasis." Since then this work has progressed and developed and thrown a new light on the consideration of problems of such vast importance that it seemed to me that it would serve a very useful purpose if the accessible cases so treated were subjected to a careful analysis, and fancies replaced by facts. If it be true that a real condition has been observed and subjected to a satisfactory treatment, then progress has indeed been made; but if, on the other hand, the results of these operations have proved to be a series of monotonous failures—as, apparently, some would have us believe—then by all means let us follow their advice, and relegate such operations into oblivion.

I shall only describe such things as I have myself seen. I have endeavoured to take nothing for granted, but as I have been fortunate enough to see a large number of these cases beforehand and have assisted at many of the operations, I feel that I am in a position to put forward evidence derived from personal observation, and I have gone into the cases as fully as possible from all points of view.

The statement that colectomy has been recommended for constipation rivals in its completeness one made to the effect that amputation of a carcinomatous breast was advised for the removal of the lump. The constipation in itself cannot be a pathological entity, but is merely the outward and visible sign, patent even to the lay mind, of a defective intestinal drainage, which, it is submitted, is productive of very grave harm. None of the patients whose histories are recorded below would have permitted themselves to be subjected to operative treatment for the mere fact that his or her bowels were not opened regularly, nor would such a treatment have been suggested. It was the observation that this intestinal stagnation was accompanied by and resulted in such a grave condition that led to the adoption of radical surgical measures. In no case was any operative treatment suggested before all simpler remedies had been given a prolonged trial and failed. It will be well to keep this fact in mind when judging of the results.

I have divided the cases into two groups, the former of which, Group A, includes those whom I have been able to observe and question personally, and it is on their evidence that I have based most of what follows. The information contained in Group B was obtained by correspondence with the patient and the medical attendant, and reference to the Surgical Reports of Guy's Hospital. My list does not pretend to include all the cases that have been subjected to operative treatment. It includes fifty of those that were reasonably accessible to me, and the object of this paper is to submit the facts observed and to try and suggest what can be learnt from a detailed study of the life-histories of these patients.

A careful analysis of these histories shows a remarkably constant set of symptoms, and examination of the patients reveals a very constant set of signs, and it is submitted first that these are due to a condition of chronic delay in the passage of the intestinal contents, which delay is mainly in the colon; secondly, that this delay is due to the mechanical obstruction caused by evolutionary adhesions, and results in an absorption of an amount of toxic material greater than can be efficiently dealt with by the individual. Based on this hypothesis, and having

found that the mere breaking down of such adhesions was futile owing to their rapid re-formation, the lower end of the ileum was divided and an end-to-side anastomosis made between this divided end and the upper part of the rectum. Should pain have been a sufficiently prominent feature the colon is removed to the site of anastomosis, at the same operation if the condition of the patient is sufficiently satisfactory, or if not, at a subsequent operation if necessary.

SYMPTOMS.

First of all let us observe what features these patients presented, and note their conditions both before and after their operations. A comparison drawn between these will place us in a position to be able to judge of the results obtained, and to see how far we are justified in assuming that the hypothesis on which this work is based is a correct one.

It will be seen that in the majority of the cases the constipation was not regarded as of any importance by the patient, but the abdominal pain was the symptom which brought them to seek advice, and it was for this pain that the operation was first performed. The degree of this pain varied considerably in the different patients, but in almost every case was sufficient to make the sufferer lead the life of a chronic invalid, and in a large number of the cases had brought about a condition of total inability to perform the duties of life. The site of the pain varied, too, and its position was usually indicated by a hand placed on either side of the abdomen, and in those patients whom I subsequently saw operated on this was a very fair guide to the main site of obstruction.

Associated with this abdominal pain was a set of signs and symptoms which are grouped under the title of those due to "autointoxication." These symptoms were found so constantly associated with a condition of intestinal stasis, and were so constantly and definitely removed by exclusion of the large bowel or its actual removal and the consequent relief of the stasis, that there can be little doubt as to their causation. The symptoms complained of by these patients were:

1. *Headaches*, which were severe and frequent.
2. *Attacks of nausea*, often followed by retching or actual vomiting. In some cases the vomiting was very frequent indeed and of a severe nature. It was very interesting to note that in several of the cases blood was frequently present in the vomit, and had led very able men to the diagnosis of gastric ulcer, although none such was found at the operation.
3. *Loss of appetite* was almost constantly present.
4. *Loss of weight* was present in all cases.
5. *Markedly cold hands and feet*, which gave an indication of a defective circulation.
6. *Mental apathy*. This was very definite in most cases. It was most marked in Case xxx, who was in a state that was well described by her medical attendant as one of torpor. Many felt that death would be a welcome relief from their physical and mental misery, and two had actually attempted to bring about that end.
7. *Constipation*, which in all was persistent and its previous treatment had failed. One case had gone on several occasions for twenty-eight days without an action of her bowels in spite of treatment.
8. *A constant foul taste in the mouth*, which was often accompanied by foul breath and carious teeth. The tongue was constantly furred.
9. *Attacks of abdominal distension*, which were accompanied by discomfort and relieved by eructation or the passage of flatus or an action of the bowels.
10. *General muscular pain* and a loss of freedom in the movements of the joints.

A physical examination showed:

Skin-staining, as a rule of a general sallow or brownish nature, associated with more definite localized patches under the eyes, in the axillae, groins, etc., or in any region where pressure was made by the clothes. This was often definitely appreciated by the patient and had become more noticeable recently. The degree of staining varied directly with the distance of the site of obstruction from the stomach.

The breasts showed changes, which in the early stages are similar to those usually described as chronic mastitis and later as cystic degeneration. The degree of these breast changes seems to bear a direct relation to the

degree of autointoxication and affords a definite index to the extent of the latter. That these degenerated breasts are exceedingly liable to malignant change has impressed itself most forcibly on my mind, and in the cases given below there is definite proof that this cystic degeneration slowly but surely disappears after an ileo-colostomy, and the breast becomes quite clear and supple again.

The abdomen.—Palpation was attended with tenderness over the abnormally fixed areas of the bowel. The main site of obstruction varied in the different patients, and consequently the position of maximum tenderness varied. The caecum, as a rule, was a pelvic organ and much dilated. In some cases it was found fixed in the right iliac fossa. The ilio-pelvic colon presented two main varieties, in one of which a straight, thickened tube was palpable in the left iliac fossa; in the other it was not so easily felt, but at the operation was found as a large distended loop, with its ends approximated and fixed by adhesions to the left iliac fossa.

The transverse colon was usually palpable and hung below the level of the umbilicus, and its middle portion was found to be in the true pelvis. The ileum was usually entirely in the pelvis.

The accompanying diagrams are presented as typical. The radiograms were taken at the intervals stated after a bismuth meal was given. They were taken by Dr. A. C. Jordan, Medical Radiographer to Guy's Hospital, who has made a very special study of Mr. Lane's cases, and has been able to obtain an excellent series of x-ray photographs of intestinal stasis affecting the several portions of the gastro-intestinal tract.

As regards the previous treatment, it had been long and varied; it had been largely medical, and carried out in the ablest hands and failed. Towards the abdominal pain surgical treatment had been directed in several cases, and such operations as appendicectomy, nephrorrhaphy, ventrifixation of the uterus, removal of the coccyx, had been performed.

NATURE OF OPERATION.

The operative procedure adopted by Mr. Arbuthnot Lane in these cases was briefly this:

Half an hour previous to the operation 4 pints of sterilized normal saline are introduced into the axillae. A hypodermic injection of $\frac{1}{4}$ grain of morphine and $\frac{1}{160}$ grain of atropine is given, and ether is administered by the open method.

The abdomen is opened by an incision through the left rectus, and the viscera are examined. The lowest point of obstruction is found, and the ileum is divided and its distal end invaginated by a purse-string suture, and then the proximal end of the ileum is implanted laterally into the lowest accessible portion of the ilio-pelvic colon. It may be mentioned that quite frequently the iliac colon is so tightly adherent and the wall of the intestine so thin that this end-to-side anastomosis is a difficult procedure. A full-sized oesophageal tube is introduced through the anus up through the anastomosis, and is fixed in position by a suture through the perineum, and is retained for four or five days.

Should the pain have been a sufficiently prominent feature, it is considered wise to remove the colon up to the seat of anastomosis by ligaturing the mesocolon in portions, and then dividing it beyond the ligatures.

One of the most remarkable features is the slight degree of shock that follows this operation. It is no rare thing to see the patient reading a newspaper within thirty-six hours of the operation, and expressing herself as feeling already much improved. One patient who was operated

on under tropacocaine related her experience to me on her return to the ward with much enthusiasm.

As regards the pathology of this condition, it has been so carefully described as to need no further details. I fancy that no one who has carefully observed the operative findings in these cases can have any doubt that the cause of the delay of the passage of the intestinal contents has been placed on a firm anatomical basis. It is due in the majority of instances to the presence of adhesions which fasten the bowel to the posterior abdominal wall in such a way that the bowel is kinked upon itself at an acute angle, and often in addition is rotated on its longitudinal axis. Thus a very definite cause of partial obstruction is produced. One is impressed by the fact that these retaining bands are evolutionary and useful, and only produce obstruction when they are formed irregularly, and, having failed to secure the bowel uniformly, a kink or obstruction has resulted.

In the other smaller groups of cases the obstruction is due to static causes; for example, an ileal obstruction may be produced by the bending of the lower end of the ileum over the pelvic brim as it passes upwards to a caecum fixed in the right iliac fossa in a feeble subject.

The difficulty in realizing that the conditions described exist seems to arise from the fact that the picture presented on opening the abdomen naturally varies, as the site of the main adhesions and the consequent effects on the bowel are not constant, but vary in the different cases.

These adhesions develop in the mesentery or mesocolon, but are quite distinct from it and can be dissected off and the mesentery left intact.

The question is sometimes raised as to the possibility of these adhesions and the resultant kink being able to obstruct the lumen of the bowel, so that an intestinal stasis may result. In this connexion let me refer to Case XXXII, who was given an

enema previous to her operation, and its introduction was attended with very marked pain. It was retained, and when the abdomen was opened it was found that the enema was contained in a much-distended pelvic colon and rectum, but that none of it had succeeded in getting past the lower attachment of the loop of which the iliac colon consisted.

CONDITION SUBSEQUENT TO OPERATION.

The first thing noticed by the patients is usually that they move their limbs more easily, and they tell you that they feel as if a cloud had been lifted from them. The headaches, the nausea, the vomiting, the depressed circulation, the mental lassitude and apathy, are gone. The foul taste goes from the mouth, and the skin staining clears up at a remarkable rate. The constipation is in many cases cured, and is in all now easily under control. A bismuth meal now reaches the rectum in eight hours. The sister of the ward tells me that she has not yet seen a case that has required more than a saline draught to secure a daily easy action whilst in the ward. There has not yet been, to my knowledge, a case of diarrhoea following the operation. Thus we see that the evidences and results of the intestinal autointoxication commence to disappear from the operation, and after periods varying in length up to eight years we find that the early improvement has been maintained, there has been a steady increase of weight, the cystic degeneration of the breast has slowly but surely disappeared, and in nearly all the cases the improvement has been such that the patients have been returned from a state of chronic invalidism and a condition of mental and physical wretchedness, to the enjoyment of their lives and work again. Of course this has been a more marked feature in the private

DIAGRAMS SHOWING COURSE OF A BISMUTH MEAL TAKEN AT 4 P.M.
ON JUNE 28TH.

Fig. 1.—June 29th,
12 noon. After 20
hours.

Fig. 2.—June 30th,
12 noon. After 44
hours.

Fig. 3.—July 1st,
12 noon. After 68
hours.

Fig. 4.—July 2nd,
12 noon. After 92
hours.*

* A small motion was passed at 9 a.m. containing a trace of bismuth.

patient who has been able to enjoy a period of rest during convalescence.

I have purposely left the question of pain to the end. In a large number it is quite gone. In some of the cases it has had to be dealt with subsequently, and it will be instructive to consider it in more detail. Among those cases which I have seen there have been only two in which there has not been a very marked improvement. In those patients who experienced pain after the operation, as far as I could determine, it was due to one of three causes:

1. In the majority of them it was due to occasional attacks of flatulent distension, which were accompanied by pain of a colicky nature. It was relieved by the passage of flatus or an action of the bowels. These attacks can be controlled by the habitual use of pure liquid paraffin, and the wearing of a suitable abdominal support. An occasional small dose of ol. ric. was sufficient in most cases to disperse it.

2. Then there was another group in which the cause of pain was found in the distension of the blind ends of the lateral anastomosis, which was originally the method adopted. It has only been necessary to obliterate these ends to cause a complete disappearance of the pain. To meet this cause an end-to-side anastomosis is now adopted.

3. The most serious cause of pain was found in the formation of inflammatory adhesions between a loop of small intestine and the area in the right iliac fossa, which has been denuded of peritoneum by the removal of the caecum. The freeing of this adherent loop is followed by a relief of pain.

The two failures with which I am acquainted have been due to very general adhesions, which have re-formed in spite of persistent efforts to relieve them.

It need scarcely be added that this subsequent formation of adhesions is not peculiar to the particular operation under discussion.

It seems fairly well established, then, that the symptoms described under the head of autointoxication are without doubt cleared up by an ileo-colostomy, and as far as I was able to ascertain from these patients there was no other cause for any complaint than the pain referred to above. It was negligible in most of the cases; in a few of the cases it had subsequently to be dealt with, and in only two was there not a very marked improvement. It will in future be met by an end-to-side anastomosis, by the wearing of a suitable abdominal support, and the habitual use of paraffin.

I do not wish to convey the impression that all these patients have been restored to a condition of perfect health. In a large number this has been done. This list includes many of the earliest cases, and this brilliant piece of work has been carried out on material that might well be described as wreckage. Even a casual glance at the patients and their stories shows the nature of the conditions that had to be dealt with, and we must not forget that all other treatment had hopelessly failed. Speaking generally, I take it that the object of any surgical procedure is to render the individual more efficient, and to what extent success has been attained in these cases must be obvious to all. One has only to see these patients to realize how good the results really are.

On the question of the nature of the substances absorbed from the bowel much interesting light has been thrown by a series of papers by Metchnikoff entitled, "*Etudes sur la flore intestinale*," which appeared in the *Annales de l'Institut Pasteur* in 1910. His distinguished assistant, Dr. Distaso, has been over from Paris on various occasions for the express purpose of assisting in the investigation of this matter. There is probably no greater living authority on the anaerobic organisms, and I have been fortunate enough to have had several opportunities of discussing this subject with him.

From the papers referred to above I have taken the following statements:

1. That in the myriad population of the intestinal tract there are at least three anaerobic organisms which can produce very virulent poisons.

2. That these poisons are of the aromatic series, and are produced by certain of the intestinal organisms.

3. According to the data we have collected in this communication it is no longer a hypothesis but an established fact that certain micro-organisms of a normal intestinal flora produce poisons—phenols and indols—which are re-

absorbed by the normal intestinal wall, and are capable of producing grave lesions in our vital organs—vessels, liver, kidneys, etc.

This throws quite a new light on the pathology of many of the conditions of the heart, liver, and kidneys, and the subject of intestinal autointoxication becomes one of the greatest possible interest.

As regards the mortality of this operation at the present time, Mr. Mullins and I collected the cases done at Guy's Hospital from June, 1909, to June, 1910; 16 operations were performed with 1 death, and that was due to the bursting of an abscess from the abdominal wall into the peritoneum seven days after the operation.

It is quite clear, then, that the colon is by no means an essential part of the human anatomy. These patients put on weight very definitely and maintain it, and whatever part this viscus may play in the absorptive process appears to be easily compensated for by the lower end of the ileum.

The fear that this operation would be followed by a fatal diarrhoea has proved groundless. This is also the case with the supposition that these patients would suffer from thirst. In no case that I have seen has the patient after operation evinced any abnormal desire for fluids. I mention this as I have seen it stated to the contrary.

The deductions that can be drawn from this work are of the greatest possible interest. The first question that arises naturally is: What is the effect of this continual absorption on the resistance of the individual to bacterial infection? Interest at first centred on those patients with advanced tuberculous affections. A careful observation shows that a large number of them show all the physical signs which we have learnt are due to intestinal autointoxication, and it seemed fair to regard this depreciating influence as a very large factor in their lowered resisting power to the tubercle bacillus. The present-day treatment of tuberculous disease does not appear to me to be so perfect that this suggestion is not worthy of the most thoughtful consideration, and in this connexion let me draw attention to Case XLVIII and the great success which attended the operation. Already Mr. Arbuthnot Lane has dealt with several cases of hopeless tuberculous hip in this way, and the results have up to date been most encouraging.

A similar deduction may be drawn as regards the lowered resistance in an intestinal stasis to the entrance of any other pathogenic organism, and if the future will but produce verification of the statements made by such an eminent authority as to the effect of the continual absorption of intestinal products in the causation of arterio-sclerosis and the various affections of the heart, liver, and kidneys, it seems reasonable to suppose that until we learn to control this absorption by other means the operation of ileo-colostomy will become one of the commonest of the surgery of the day.

GROUP A.—Evidence Obtained from Personal Observation.

CASE I.—A female, aged 27, single, a hospital nurse, had suffered for many years from marked constipation, which was associated with marked and frequent abdominal pain, frequent severe headaches, attacks of vomiting, and a constant feeling of nausea, and a foul taste in her mouth. She could maintain no interest in anything. Her appetite was very poor, and her weight had gone steadily down to 119 lb.

On Admission.—Her abdomen was distended; palpation of the colon was tender. Her lips were anaemic; her skin waxy, with much staining. Cystic changes were especially marked in the left breast.

Her condition had progressed, in spite of the ablest medical treatment, and in the end she was an invalid and quite unable to perform her duties as a nurse, because of a marked feeling of lassitude and the abdominal pain and vomiting.

In June, 1904, right nephrorrhaphy was performed, but only temporary relief obtained.

In October, 1904, an ileo-sigmoidostomy was performed.

I saw her on February 16th, 1911, and she was a full-faced woman, with a perfectly clear, pink skin. Her weight is now 147 lb. The bowels act easily, requiring merely an occasional purge. The headaches, vomiting, nausea, and feeling of lassitude are gone. She has a good appetite. The cystic changes in the breast have quite gone.

She returned to the full duties of a nurse in July, 1905, and since then has followed the usual hospital routine, and says she feels perfectly well in every way.

CASE II.—A female, aged 28, single. Had suffered from constipation for many years; this had become worse during the last three years, and had been absolutely dependent on purgatives and enemata during that time. An action of the bowels was always attended with pain, and an enema caused almost

unbearable pain. This condition was associated with attacks of left-sided abdominal pain, frequent attacks of dizziness, distressing cold hands and feet, frequent headaches, loss of appetite, frequent attacks of nausea, but vomiting only on two occasions. The attacks of abdominal pain and marked lassitude and mental inability had rendered her quite unable to do any work for three and a half years.

For two years previous to admission she had been under the care of one of the ablest London physicians, and been treated medically, but she had, nevertheless, become steadily worse.

On Admission.—Her skin was definitely stained; she was a thin, wasted, sallow-faced woman, and was suffering from an attack of acute abdominal pain, with a distended abdomen. The colon was palpable and tender. An enema given confirmed her story as to the pain produced. The cystic degeneration of the breasts was most marked. Her weight was 92 lb.

In August, 1909, colectomy was performed and a lateral anastomosis made. The convalescence was interrupted by the development of the *Bacillus coli* in the abdominal wound and urine. These were successfully treated by vaccines.

I saw her again on January 24th, 1911, and the difference in her condition was very real. Instead of the sallow, thin, miserable woman, one met a full-faced woman with clear skin. Her weight had gone up to 115 lb. Her abdominal pain had gone; her bowels acted regularly with paraffin. The headaches, dizziness, cystic breasts have gone. She is now quite able to do her work, takes a renewed interest in life, and cannot adequately express her gratitude.

CASE III.—A married woman, aged 42, with four children, was admitted because she had suffered from attacks of acute abdominal pain of irregular incidence and not apparently connected with the taking of food. During the last four years these attacks had increased in frequency, and were described as "simply dreadful."

She had frequent bad headaches, loss of appetite, many years' history of constipation, which alternated at times with diarrhoea, a constant feeling of lassitude, and she felt she was "dragging along anyhow." She had been treated medically for years.

Her skin was stained; her cold hands and feet were a source of much discomfort. The sigmoid was palpable as a fixed, straight tube which was tender. The caecum was in the pelvis, kidneys were palpable, and there was a general enteroptosis. She was in a very low condition indeed.

On opening the abdomen in July, 1909, the ascending colon, caecum, and the lower end of the small intestine were found tied down in dense adhesions, due to a tuberculous peritonitis.

The colon was removed as far as the ileo-pelvic colon, together with the lower 2 feet of the ileum, and a lateral anastomosis was made. She was in such a low condition that during the convalescence she developed a bedsores, which was resistant to treatment, but was eventually healed.

I saw her again on January 24th, 1911, and she looked quite a different woman, with a clear, healthy skin. She had put on over 28 lb. Her appetite she describes as tremendous, her headaches have gone, the bowels act easily with an occasional purgative. She is quite able to do all her household duties. She says she feels "miles better," and is delighted with herself.

CASE IV.—A female aged 29, single, was admitted for many years' severe constipation which had defied all varieties of treatment, and she was quite dependent on increasing doses of purgatives, which produced an occasional action. This was accompanied by abdominal pain, which was aggravated by taking food, and was at first felt in the right side of the abdomen. It was associated with distension when she stood up. The pain had become very bad, but not unbearable. She had had frequent distressing headaches, frequent vomiting, a chronically furred tongue, and a constant foul taste in her mouth. For twelve months previously she had passed mucus per rectum. She was tired out by midday, and had been compelled to give up her work for eight months. A meal containing meat or fruit was followed by nausea and a definite epigastric pain in fifteen minutes. Skin staining was marked. Both breasts showed chronic mastitis. She had lost a lot of weight.

On November 25th, 1909, an ileo-colostomy was performed.

I saw her again on January 19th, 1911, and she was most definitely improved. She looked fatter, and now weighed 132 lb. Her skin staining was gone. Her bowels act easily with an occasional purge. The cystic changes in the breasts have disappeared. Her only complaint is that of an occasional attack of flatulence and distension. She has passed no mucus for five months. She has been back at work for five months, and says she feels very much better in every way.

CASE V.—A female, aged 27, married, was sent up for persistent and long-continued haematemesis of six months' duration.

She gave a seven years' history of constipation, which was such that, despite purgatives and enemata, which caused great pain, she had on occasions had no action for twenty-eight days. She had had marked abdominal pain, was rapidly losing weight. She had taken no solid food for two years, and had been treated medically as an in-patient in two London hospitals for gastric ulcer. She had been unable to work for about six years, and said she felt as if she just wanted to lie down and never get up again. On admission, her skin was almost the colour of an Indian's, the staining being most marked. She was sick after every meal. In August, 1908, she weighed 119 lb. She weighed 86 lb. on admission. She was weak and depressed.

In August, 1909, colectomy was performed. There was no gastric ulcer present.

She was discharged with her bowels acting easily, able to take solid food, the vomiting ceased, and the skin staining having rapidly disappeared.

Until July, 1909, she got on splendidly. She married in May, 1909, and her husband thought she had done marvellously. Her weight had gone up to 117 lb.

In August, 1910, she had a bad miscarriage, and this has thrown her back somewhat, as she has since then had some abdominal pain. Apart from this, she says she would still be quite well, and she certainly looked very well.

I saw her in March, 1911, and she was almost free from pain again, and was quite pleased with her condition.

CASE VI.—A female nurse, aged 43, single, in April, 1892, had acute appendicitis. Until 1900 from that date she had had repeated attacks of severe abdominal pain with sickness and constipation.

In November, 1900, the appendix was removed, but the attacks of pain and sickness soon recurred and constipation was still obstinate. This state continued till 1905, and she then began to pass mucus. In June, 1905, the right kidney was fixed, but the symptoms were only temporarily relieved.

She steadily lost weight, and it fell to 89½ lb. At the end of September, 1906, she became very ill and was forced to keep to her bed, and wasting and loss of strength became pronounced. The constipation was uncontrollable with any purgatives, and she had as many as four enemata a day. Despite these, she had gone sixteen days without any action. Her skin became very dirty, and her mental and physical wretchedness was marked.

In May, 1907, she had been in bed for eight months, and during that time would lie for two or three days at a time in a sort of semiconscious state, and was so ill that it was feared removal to hospital was impossible. She was admitted in May, 1907, and colectomy was performed.

She was readmitted in January, 1908, and an adherent loop of bowel freed. I saw her on January 31st, 1911, and she said that she had greatly improved in every way. Her weight was now 105 lb. The vomiting had ceased; the bowels acted easily with an occasional aperient. Her appetite had returned, and she was now able to do her work as a nurse.

CASE VII.—A married woman, aged 55, had been constipated for years. It had progressed in spite of all treatment, and often she had gone a fortnight without an action. Purgatives were followed by vomiting, and enemata were very painful. Before admission there had been no action for four weeks, and she was constantly vomiting a very foul material.

She had had severe headaches, abdominal pain for years. Her skin was almost mahogany in colour, and this was associated with defective circulation and a constant foul taste in the mouth. Her weight fell to 84 lb.

On admission she was considered too feeble for any surgical treatment, but she begged for something to be done, and on June 24th, 1907, an ileo-colostomy was performed.

I saw her on January 30th, 1911, and was struck with the clear, peach-coloured skin. Her bowels acted regularly. There was absolutely no pain, no headaches, no vomiting; her appetite is splendid, and she weighs 112 lb.

She feels better than she has done for many years, and does all her housework and works in her husband's parish just as any other normal person might do.

CASE VIII.—A female, aged 24, single, had suffered for years from extreme constipation with severe abdominal pains. She vomited very frequently, and was never without a headache. Twelve months' medical treatment had quite failed to improve her in any way. Her weight fell to 84 lb., and she was going downhill fast. She had done no work for two years, and had been a complete invalid.

In September, 1906, an ileo-colostomy was performed.

In February, 1907, the colon was removed to the splenic flexure.

She improved in every way, and put on 24 lb., but her pain returned in July, 1907, and a loop of adherent intestine was freed. This gave complete relief, and she improved greatly in every way.

In February, 1909, another coil became adherent, and this was freed. During her convalescence the intestine opened on to the abdominal wound, and a faecal fistula formed.

In February, 1911, she looks clear skinned and well. She has put on a great deal of flesh, and feels splendid in herself. The fistula has not yet closed, and it has not been possible to devise any apparatus to control it, so that she is thus still a cripple in that respect.

CASE IX.—A married woman, aged 44, with four children, had been constipated for many years, which had progressed in spite of all treatment. She had frequent headaches, which latterly became almost constant. Her skin had become sallow, and she had frequent attacks of abdominal pain, distension, and vomiting. Her appetite went, and she had a constant foul taste. For nine months previous to operation the abdominal pain was almost continuous, and she was worn out by it and the frequent vomiting, and she was dying. She had had every conceivable form of medical treatment in the ablest hands.

In December, 1905, colectomy was performed.

I saw her in February, 1911, and she felt "wonderfully well." The headaches, vomiting and pain having quite gone. Her skin is clear and she is well nourished, and has put on 14 lb. since operation.

CASE X.—A single woman, aged 32, had suffered since childhood from constipation which had progressed in spite of treatment of every kind. The introduction of enemata was very painful. She had been compelled to lead the life of an invalid because of the frequent attacks of abdominal pain, severe

headache, abdominal distension, and vomiting. She wasted markedly, and felt "just dreadful," and was quite disinclined to go on as she was.

In 1900 appendicectomy was followed by temporary relief for a few months.

In 1902 for acute pain in the right iliac fossa and frequent vomiting.

In 1903 readmitted with extreme constipation, and an extensive operation was performed to free the colon from adhesions. Again only temporary relief.

In 1904 right nephrorrhaphy was performed, and in 1905 colectomy to the splenic flexure was performed.

In May, 1907, she was vastly improved, and had earned her living without a rest for twenty months. In November, 1907, an adherent loop had to be freed.

I saw her in February, 1911, and she was now very well indeed. She had put on 32 lb. since 1905, her condition being perfect in every way. About a year ago she began to get occasional attacks of discomfort two hours after a meal, and this is the only cause of complaint; otherwise she looks and is splendid.

CASE XI.—A single woman, aged 40, gave a history of constipation since childhood. This had progressed and been accompanied by severe abdominal pain, which had got worse since 1901, and in the last two years became unbearable, and she felt life impossible. She had frequent severe headaches, which eventually recurred every three or four days. She had lost a good deal of flesh, her appetite was gone, and she was thoroughly miserable. In attempts to deal with the pain ventral fixation of the uterus, removal of the coccyx, right and left nephrorrhaphy had been performed. In March, 1909, she first noticed she was passing mucus.

She was very sallow and pigmented on admission, and her pain referred chiefly to the right iliac fossa. The sigmoid region was very tender on palpation. Cystic changes were marked in both breasts, and on the left side had suggested a diagnosis of malignancy. Sigmoidoscope showed only flakes of mucus. In November, 1909, the colon was removed to the sigmoid flexure.

I saw her again on January 26th, 1911, and the difference was most striking, as she was now absolutely well and had put on flesh. Her doctor quite agrees with me in this view, and writes that "Mr. Lane may well feel pleased with the result of his operation."

CASE XII.—A single woman, aged 47, a nurse, had suffered for many years from chronic constipation, marked abdominal pain, frequent bad headaches, and vomiting. Many operations by various surgeons for the relief of this pain had been performed, but had failed. All hope of relieving her had been abandoned and she was admitted to a home for the dying. For about four months previous to admission she had been vomiting faecal material; her pain was such that she had been having hypodermic morphine daily. Her weight was down to 105 lb., and she was dying.

In July, 1904, an ileo-colostomy was performed, and in November, 1904, the colon was removed. In February, 1905, a very mobile right kidney was stitched up. In December, 1908, a diverticulum from the lateral anastomosis was laced up.

I saw her on February 3rd, 1911, and she is now a big, plump woman of 156 lb. Her bowels act easily with paraffin. She is very pleased with herself. A friend of hers writes: "I have known her for many years, and never saw her looking so well. She certainly is a living wonder."

CASE XIII.—A single woman, aged 29, gave a history of progressive constipation since 16, associated with severe abdominal pain, distension. To deal with this pain her appendix and right ovary were removed when 22. The relief was only temporary, and she gradually got worse. Constant "dyspepsia," abdominal pain, headaches, and a feeling of lassitude, which progressed to utter misery, had brought her for advice to many eminent men. Having the means, she had been in various nursing homes, and been treated in all the recognized methods, and at the end took 2 oz. of ol. ric. every evening and enemata *ad nauseam*, with the result that an occasional painful action followed. Her skin became absolutely yellow, and although she felt "dreadfully ill and miserable," she was diagnosed as "nerves." In spite of treatment her weight fell to 112 lb.

On September, 1905, colectomy was performed, and in five months she felt quite well, and her weight went up to 128 lb.

In December, 1906, it became necessary to free adhesions around the pylorus, but the relief was temporary, and in March, 1907, a posterior gastro-enterostomy was performed. In October, 1907, an adherent loop had to be freed.

Since then everything has gone well. I saw her in February, 1911, and she was in excellent health in every way. Her weight is now 140½ lb. She won a tennis tournament last summer, playing forty-four games in one match. She rinks; walked nine miles one day last summer. She feels "miles better," and is just delighted with herself.

CASE XIV.—A medical man, aged 43, had suffered from constipation since a youth, and for ten years it had defied all treatment. With this had come on a progressive feeling of lassitude, mental disability, loss of appetite, constant headaches, and sleeplessness. He had a chronically furred tongue. He had no pain. He had been treated for two years by West-End specialists, but had got progressively worse. Thinking he might be hypochondriacal, as had been suggested, he fought on until life became unbearable. Weight 116 lb.

In July, 1907, a lateral anastomosis was performed.

I saw him in March, 1911. His bowels act easily, no pain, appetite returned, weight 132 lb. He has since worked very hard in his

practice, and has been absolutely well in every way for the last three years.

CASE XV.—A female, single, aged 27, had for many years suffered from marked abdominal pain, constipation, frequent vomiting, and severe headaches. For nineteen months previously she had been under the ablest medical treatment, but had got progressively worse. This was the worst case of pain in the series, and this, combined with frequent vomiting and a constant feeling of weariness, had made life unendurable. For two years she had done nothing, but had spent most of the time in bed.

After removing the appendix and two operations to relieve the adhesions by simply breaking them down had failed, in October, 1903, colectomy was performed. Since then the abdomen has been opened on several occasions to break down extensive inflammatory adhesions that form, but the relief afforded is only temporary, and this condition cannot be met.

CASE XVI.—A man, aged 44, with many years' history of uncontrollable constipation, which during the last three years had been accompanied by attacks of abdominal pain, which latterly had become very frequent and severe. Vomiting had been a feature for six years, and during the last twelve months he had vomited nearly every day, and often several times a day. No haematemesis. His appetite was gone; his weight fell to 118 lb., and he felt thoroughly miserable.

In December, 1904, an ileo-colostomy was performed.

In November, 1906, colectomy was necessary, and at this operation adhesions around the pylorus were divided and the stomach found dilated.

In April, 1907, a gastro-enterostomy was performed.

I saw him in February, 1911, and he was a strong well-nourished man weighing 161 lb., and absolutely well in every way and was delighted with himself. His ability to deal with a dinner at Simpson's left no doubt in my mind that the pleasures of his life were not curtailed in any way.

CASE XVII.—A single woman, aged 38, gave a five years' history of constipation, which had defied all treatment. In addition she had almost constant headaches, was always tired, constant foul taste, and carious teeth. Latterly had vomited after nearly every meal and abdominal pain had become very marked. Mentally she seemed dull and confused. She had a large cystic goitre, which raised the question of the advisability of giving a general anaesthetic.

In July, 1910, an ileo-colostomy was performed.

The bowels now act easily and regularly, headaches are gone, and she is mentally quite bright. The cystic thyroid is less by more than a half, and the patient says she feels better than she can ever remember doing.

CASE XVIII.—A single woman, aged 22, who had been constipated since childhood; it had become much worse since 14, and it was accompanied by frequent abdominal pain, which was worst when the bowels acted. These attacks became so frequent as to render life unbearable. With them were associated frequent bilious attacks and severe headaches, with loss of appetite. Her skin was stained and her breasts cystic.

In 1908 the ilio-pelvic colon was freed from adhesions, but only temporary improvement resulted.

In August, 1909, an ileo-colostomy was performed, and in February, 1910, colectomy was performed. She improved in every way, put on weight, bowels acted easily, and she felt "splendid."

In February, 1911, it was necessary to free an adherent loop.

The girl is now quite a different person; no headaches, no nausea, no pain, cystic changes in the breast have gone, and she feels perfectly well in every way.

CASE XIX.—A man, aged 22, who had suffered from intractable constipation, abdominal pain, nausea, frequent vomiting, bad headaches, all of which had progressed in spite of treatment.

In December, 1905, the appendix was removed, and the right-sided pain disappeared, but he was still much the same, and left-sided pain became very marked. His weight fell to 122 lb. He had a constant offensive smell which did not disappear after hot baths and change of linen; this with the abdominal pain and headaches made him come up for radical treatment, and quite prevented him working at all.

In November, 1906, the colon was removed to the splenic flexure.

I saw him on February 13th, 1911, and he was now a perfectly clean, healthy, well-nourished man weighing 150 lb. There is no pain, bowels regular without any medicine. The offensive odour and pigmentation have gone. He plays football, runs, cycles, and works as hard and as normally as any other man.

CASE XX.—A single woman, aged 26, had been constipated since 14, with frequent pain in the left iliac region, severe frequent headaches, described as "fearful." Had been medically treated since 1905; had done no work for months; weight down to 100 lb. Cystic changes in both breasts marked. Skin dirty. Bismuth meal markedly delayed in the colon.

In August, 1907, ileo-colostomy performed.

I saw her on February 6th, and she looked very well, and says "it was so lovely to feel well." No headaches; bowels act easily, no pain. Cystic breasts have cleared up. Her only trouble, she says, are occasional attacks of flatulence and distension. These she describes as trivial, and says she feels "wonderfully better."

CASE XXI.—A single woman, aged 32. A long history of obstinate constipation, and during the last few years had passed a lot of mucus. Had severe attacks of abdominal pain for last five years. In treatment of this pain the appendix had been removed and gall bladder explored later for stones, which were not found. The caecum had been opened and colon irrigated to get rid of the mucus, but had failed. She had almost

constant headaches, and attacks of retching, and was very hopeless about it all. She had markedly wasted.

In February, 1909, colectomy was performed, and was very difficult. She had a long, tedious convalescence as a faecal fistula opened on to the abdominal wall.

I saw her again on February 14th, 1911, and she said she felt "awfully well," and she certainly looked a very different person. Mucus gone, and she can walk several miles a day. Her one trouble is her fistula, and that will be closed by operation.

CASE XXII.—A single woman, aged 37, had suffered for years from marked constipation, headaches, abdominal pain, frequent vomiting, loss of flesh and lifelessness. She had a defective circulation, and was markedly stained. She had been compelled to give up her occupation because of the constant headache, vomiting, and pain.

In August, 1908, an ileo-colostomy was performed.

I saw her on February 6th, 1911, and she says she is very greatly improved in every way. Headaches gone, pain is now negligible, bowels act easily with occasional aperient; her weight has gone up and she has returned to work.

CASE XXIII.—A single girl, aged 19; had a history of many years' constipation, which had become much worse in the last year. Abdominal pain of six years' duration especially associated with defaecation. Frequent distressing headaches, frequent attacks of nausea, only occasional vomiting. Very dirty complexion; lost much flesh. The abdominal pain with nausea and complete lassitude made her feel "she did not care much what happened," and she had done no work for six months. Cystic changes marked in both breasts. Sigmoid palpable as fixed, tender, straight tube.

January, 1910, colectomy. From that time onwards she progressed. No pain, bowels act regularly, great increase in weight. "Skin cleared up. Cystic changes in breast are quite gone. She has returned to work and interest in life again.

CASE XXIV.—A single woman, aged 27, with a history of constipation since childhood, said she had been treated at various hospitals for constipation and abdominal pain. Since 1903 she had been compelled to leave various situations. The pain and constipation progressed in spite of treatment, and became associated with acute headaches and faintness, and a constant feeling of lassitude and nausea.

In 1905 she did only five weeks' work.

In 1906 she began to pass mucus, and from then onwards was in hospital for seventeen months. An appendicostomy was performed, and the bowel washed out regularly for six weeks. This did not relieve the condition. Her constipation increased, and she took 7 minims of croton oil twice a week for some months; its chief effect at first was to produce acute pain and vomiting. On admission she was coarsely pigmented, had lost flesh, and cystic changes in her breast were marked.

In July, 1910, an ileo-colostomy was performed.

I saw her in February, 1911, and she says she is "infinitely better." Her skin is much clearer; her bowels act regularly without any aperient. She has put on weight; her appetite is much improved; headaches gone; no pain, but occasional flatulence. The difference in her mental condition is remarkable.

CASE XXV.—A single girl, aged 18, gave a history of severe constipation for four years. Marked frequent abdominal pain; three years' history of acute pain on defaecation. Loss of weight; appetite gone; almost constant headaches; sallow-stained skin; a state of advanced mental lethargy. Bismuth meal was markedly delayed in its course through the colon. Ileo-colostomy in July, 1908.

I saw her on February 7th, 1911, and she was markedly improved. Headaches gone; bowels act easily; gain of weight. Appetite—"eats wonderful now." Yellow colour gone. Went straight back to service, and her only trouble is an occasional attack of flatulence and distension.

CASE XXVI.—A single woman, aged 45, gave a long history of obstinate constipation, abdominal pain, pain on defaecation, very severe headaches, frequent nausea and vomiting, no haematemesis. Loss of weight down to 96 lb. Marked skin staining, and described her condition as one of general misery. Left breast showed marked cystic changes, which the patient thought was a "cancer."

In 1902 right nephrorrhaphy; in 1904 left nephrorrhaphy gave only temporary relief.

In 1904 ileo-colostomy, and in 1905 colectomy to the splenic flexure.

I saw her in February, 1911, and she looked well nourished, clear skin. She said that until Christmas, 1910, she was most markedly improved in every way. No pain. Bowels acted with occasional aperient. No headaches, nausea, vomiting. Put on weight, to 112 lb., and she was delighted with her condition. At that time she discarded her abdominal corset, and since then distension has returned. Cystic changes in left breast have quite gone. She will be given another abdominal support. She is now able to do all her home duties, and thoroughly enjoys her life.

CASE XXVII.—A single woman, aged 27, with a history of intractable constipation since childhood. In addition she had frequent abdominal pain, vomiting two hours after food. On seven occasions haematemesis. Severe frontal headaches, latterly almost constant. Had been compelled to give up situations for these reasons for the last two years. Weight fell to 100 lb. General muscular pain; almost chronic cough, with no sputum. Skin yellowish, constant foul taste. "She cares nothing if she lives or dies." Marked cystic changes in her breasts.

In 1902 appendicectomy with temporary improvement.

In December, 1902, pain returned and delay found at hepatic flexure, and so abdomen opened and adhesions broken down; again only temporary relief.

In January, 1911, ileo-colostomy.

March, 1911. She is now as happy as possible, and feels as if a cloud had been removed. Skin already much clearer. Bowels acting regularly. Improvement is remarkable.

CASE XXVIII.—A married woman, aged 38, gave a life-history of progressive constipation, which had defied medical treatment. Accompanying were very severe headaches, right-sided abdominal pain for six years, with frequent vomiting after meals. No haematemesis; constant foul taste; defective circulation. She had been unable to do her housework for six years because of pain and vomiting, and had been under treatment constantly.

Two months previous to admission had attacks of sickly pain under right costal margin, with attacks of vomiting, and was sent in as a case of gall stones.

On February 20th, 1911, an ileo-colostomy was performed; there were no gall stones. Since her operation she has most markedly improved; not a single headache; bowels act regularly; no vomiting, and she is delighted with herself.

CASE XXIX.—A married woman, aged 43, had been entirely dependent on purgatives and enemata for many years. Eventually these were only occasionally efficient, and were painful. Daily nausea, no actual vomiting. Frequent bad headaches; abdominal distension and much pain; defective circulation; constant foul taste in mouth; loss of appetite; stained skin; cystic breasts; constant feeling of weariness and depression. Was often laid up for six weeks at a time, and was quite unable to work.

In July, 1907, colectomy and pylorus liberated from adhesions. I saw her in February, 1911. Bowels now act regularly, headaches much improved; clean skin. Gain in weight, and she feels "so very much better." Cystic breasts cleared up. Absolutely enjoys life in every way, only complaint occasional flatulence and distension.

CASE XXX.—A single girl, aged 18, gave a long history of constipation, which had become much worse during the last nine months. Had been twenty-eight days without an action in spite of treatment. Had taken as much as a pint of oil. ric. in week without effect. Frequent headaches, much abdominal pain, defective circulation. Constant feeling of weariness and lethargy. Had been treated in every possible way at home and at hospital, and was sent up as a *dernier resort*. A bismuth meal took four days to reach the rectum, and was then removed by an enema.

March, 1910. Colectomy.

On February 18th, 1911, her doctor writes: "The change in the patient is extraordinary. She has a clear fresh colour, she is bright and active mentally and physically, and her mental torpor and hysteria have almost entirely gone. Her bowels act easily. I saw her walking in one of the lanes the other day, and you would not know her for the heavy, uninteresting creature of eighteen months ago. I am delighted and surprised with the result." The patient herself is no less enthusiastic.

CASE XXXI.—A single woman, aged 53, was admitted in August, 1908, for left-sided abdominal pain, with constipation since girlhood and "indigestion," frequent attacks of abdominal distension with regurgitation into the mouth of a sour material, and in the bad attacks she vomited. Frequent bad headaches, and marked periods of mental depression. Skin staining. Loss of flesh was marked. Mucus passed per rectum since 1904. When 40 a fibroid had become prominent, and in 1895 both ovaries were removed. She had done no work of any sort for six months previous to admission.

In August, 1908, an ileo-colostomy was performed.

I saw her in February, 1911. Her bowels act regularly. Good appetite. Headaches gone. No sickness. No colitis for months. Her only trouble consists in occasional attacks of flatulence, which cause abdominal discomfort. She is now able to do all her household duties.

CASE XXXII.—A single woman, aged 51, was admitted for very severe left-sided abdominal pain and constipation, which had become much worse in the last three years. Breasts markedly cystic. Deep pigmentation. Very tender in left iliac fossa. An enema was unable to pass the adherent loop in this fossa.

Ileo-colostomy in December, 1909. She writes to say she is very much improved in general health but still has some abdominal pain.

CASE XXXIII.—A single woman, aged 34, who had always been constipated, and suffered for years from attacks of marked abdominal pain and vomiting. She was a miserable-looking woman, and had done no regular work because of the pain and the constant vomiting for eleven years.

Appendicectomy in 1902 produced only temporary relief, and the constipation and vomiting persisted.

In November, 1903, an extensive operation was performed to break down adhesions binding down the large bowel, and again the relief was only temporary.

In July, 1904, ileo-colostomy was performed; and in November, 1905, the colon was removed to the splenic flexure.

Her doctor now writes to say that "Since then she has gradually and definitely improved. She has put on flesh, the bowels act regularly with a slight aperient, and the vomiting has ceased. Altogether she is very markedly improved."

I saw her on March 6th, 1911, and she said she kept very well indeed. She was well nourished, having gained 28 lb.; her bowels acted easily, the vomiting had quite stopped, and she

felt delighted with her condition. Her only trouble was occasional flatulence. Her abdomen was perfectly supple and there was no tenderness.

GROUP B.—Evidence Obtained from the Guy's Hospital Surgical Reports, and by Correspondence.

CASE XXXIV.—A male, aged 23, was admitted with a six years' history of obstinate constipation, for which he had been treated by various eminent German physicians; he had been to Carlsbad, and been treated with daily enemata, and in spite of these obtained an action every twenty-one to twenty-three days. Then he went to Berlin, and was treated with medicines, exercises, enemata, baths, diets, etc., but no relief was obtained.

In addition he had suffered from severe abdominal pain, worse after food; almost constant headache, steady loss of weight, poor appetite, and was quite unable to carry on his business.

In July, 1910, an ileo-colostomy was performed, and he has steadily improved. His bowels act regularly, and he is delighted with his condition.

CASE XXXV.—A married woman, aged 35, had complained of right-sided abdominal pain for the last fifteen years, with frequent attacks of nausea and offensive vomiting. Constipated since childhood, and quite dependent on purgatives, enemata, etc. Lost a lot of flesh. This in spite of all treatment.

Appendectomy in 1908 gave only temporary relief from the pain.

In February, 1910, an ileo-colostomy was performed. She was discharged very much better in every way; the pain had gone, bowels acted regularly.

In March, 1911, she is maintaining the improvement, and her only trouble is attacks of flatulence, abdominal distension, and discomfort.

CASE XXXVI.—A married woman, aged 45, gave a history of severe constipation for many years, and this had defied treatment for the last six years. During the last twelve months headaches were constant, and with severe abdominal pain, which increased after taking food, had made her quite unable to do the lightest of her household duties. She was markedly pigmented, constant cold hands and feet. Had lost much weight, and was very thin.

In July, 1910, an ileo-colostomy was performed, and she was discharged very markedly improved, no pain, no headaches, bowels acting easily. She writes to say that this improvement is maintained.

CASE XXXVII.—A married woman, aged 39, who said that she had been constipated since girlhood, and this had of recent years become much worse. Defaecation had lately become very painful, and blood and mucus were found in the motions. Poor appetite. Suffered constantly from "dyspepsia."

She awoke with a headache, and was quite done up by tea-time, and had to go and lie down every day. Frequent nausea, no actual vomiting; deeply stained; rapid loss of flesh. After many years' unsuccessful treatment, in February, 1906, colectomy was performed. Since then her bowels have acted regularly and comfortably. She has felt quite well, and able to do her housework. She has just given birth to her second son since her operation, and so far all has gone well.

CASE XXXVIII.—A single woman, aged 35, had suffered for years from increasing constipation, which had been treated by the most able physicians without improvement. She had associated with this constant attacks of nausea, headaches, and marked abdominal pain. Her weight fell to 78 lb., and she was very wretched and miserable.

In October, 1904, ileo-colostomy was performed, and in September, 1905, the colon was removed to the splenic flexure. Her recovery was splendid, and her doctor writes that she is now in very good health; her bowels act with an aperient. She has only an occasional headache and at times some abdominal distension and flatulence.

The patient herself writes to say "she is fully alive to the great improvement that has been made in her. Her weight is now 91 lb. I do not complain of the need of an aperient, as it now acts, and I feel a sound, healthy young woman."

CASE XXXIX.—A single woman, aged 43, who had suffered from marked constipation for seven years, and pain on the right side of the abdomen became marked. She rapidly lost flesh, and the right kidney became mobile and was stitched up in 1902. In 1904 appendectomy was performed. After this constipation became most obstinate and mucus appeared in the stools, and she was in a continual state of discomfort and pain, and in July, 1907, colectomy was performed.

In January, 1911, her doctor writes: "She has lost her sallow appearance, the mucus has disappeared from her motions, the bowels are easily controlled, but she has some attacks of distension and abdominal pain. The abdomen is perfectly soft and supple, and there are no physical signs in it."

CASE XL.—A man, aged 29, had suffered all his life from chronic constipation. He was admitted in December, 1904, dying with acute ulcerative colitis. He was so ill that it was only possible to expose the lower end of the ileum and drain it. The very acute symptoms subsided, but frequent discharges of blood-stained foul mucus ran involuntarily from the anus.

In January, 1905, the ileum was introduced with great difficulty into the rectum. He was discharged much improved, but the fistulous aperture in the right groin had not closed. In September, 1905, the large bowel was removed.

In February, 1911, his doctor writes that "He is still alive, and there is no blood or pus in his motions. He is still very weak and suffers from myalgia. As at the operation his life was despaired of there is no doubt it was a success."

CASE XLI.—A married woman, aged 32, had been "going off" for years. When 16 she was in bed for seven weeks with a diagnosis of "gastric ulcer." Since then her bowels had been a constant trouble, pain under the right costal margin became marked, and attacks of vomiting occurred.

In 1906 a London surgeon performed gastro-enterostomy; but this gave little relief, and the vomiting continued.

In May, 1907, she was much worse, attacks of vomiting every fortnight. Her complexion was earthy, her tongue brown and constantly coated. A constant pain in the right iliac fossa pressed down and made the bladder irritable. Severe attacks under right costal margin accompanied this, and mucus was passed. Her condition at this time was described as desperate.

In May, 1907, colectomy was performed. From then she improved, gradually discarding her invalid habits and taking healthy walking exercise, and her general condition improved in every way. It was necessary to lace up the blind ends of the anastomosis in 1908. Her doctor writes that, "in looking back at this case, it seems almost incredible that this happy and contented young lady should be the same individual as the miserable cachectic creature of four years ago." She herself is unshakably of the opinion that, but for the removal of her "cesspool," she would not now be alive.

In January, 1911, she writes that she is still quite well.

CASE XLII.—A single woman, aged 48, had an attack of peritonitis with a discharge of pus per rectum when 9. Since 12 she had suffered from constipation. Had trained as a nurse in 1881, but had never been able to go on with her duties for any length of time. Since 1894 her bowels had never acted without drugs. Since December, 1897, she had led the life of an invalid. She was observed in 1899 to be very thin, of a muddy complexion with abdominal pain after all food. No appetite, constantly furred tongue. She never left her bedroom, and always required purgatives, etc., for bowel action. In 1904 these symptoms became more marked, more aperients were required. Persistent nausea was present, with occasional vomiting and increasing emaciation. Her doctor sent her up, believing that her constipation was the chief factor in her condition.

In July, 1904, her carious teeth were removed. No improvement.

In November, 1904, colectomy was performed.

In 1905, she developed tubercle at the right apex, and tubercle bacilli were found in the urine.

In February, 1911, her doctor writes that she has developed into a case of chronic phthisis. Her bowels act daily, but require a glycerine enema occasionally, so that the operation has certainly put the old constipation under control. She still has tubercle bacilli in her sputum. It is worthy of note that she was not emaciated in the last year or two.

CASE XLIII.—A single woman, who since 1894 had been the victim of most obstinate constipation. Defaecation was attended with pain. For seven years this had been associated with abdominal pain, sickness, severe headaches, debility, loss of appetite, and depression. Her weight went down to 99 lb. She had done no work since 1903.

In March, 1905, ileo-colostomy was performed, and she now writes to say, "My weight is 128 lb. I have a good appetite, and can eat anything without being sick. I have taken no medicine since 1907. Every one tells me how much better I look, and I feel so pleased to be so well again. I feel quite able to do my work without feeling overdone."

CASE XLIV.—A single woman, aged 41, who trained as a nurse. She had suffered for years from progressive constipation, with marked right-sided abdominal pain and frequent attacks of nausea and vomiting after food. She was losing flesh and had frequent headaches. Her skin was "yellow," and she suffered from marked mental and physical lethargy. She was so exhausted after a little work that, coupled with her abdominal pain, it was quite impossible to go on as a nurse.

In April, 1907, colectomy was performed.

In February, 1911, she writes that she has only twice had any pain since her operation. Otherwise her health is splendid. No constipation; no headaches or sickness, and she has put on flesh and maintained it, and is now in charge of a nursing home, and is most grateful for what has been done.

CASE XLV.—A single woman, who had suffered for years from abdominal pain and marked constipation. She had been treated medically since 1900 and been seen by various consultants and their suggestions adopted. In 1906 an attempt was made to deal with the pain by nephrorrhaphy. She was then kept in bed for three months, but her pain and constipation were not relieved, and the wasting became marked, so that malignant disease was suspected, but none found.

In 1909 again a consultant diagnosed dilated stomach. The pain, constipation, and vomiting continued, and her weight fell to 87 lb. She was found to show marked symptoms of auto-intoxication, and an ileo-colostomy was performed.

Her doctor writes in February, 1911, that she has almost entirely lost the old abdominal pain, her bowels act easily with an occasional aperient, she has regained her former weight, and takes an eight-mile walk almost daily.

CASE XLVI.—A single woman, aged 35, has been in indifferent health for some years. Constipation was severe, with loss of appetite, vomiting after food, sallow complexion, loss of weight, marked abdominal pain, mental depression, so that "life was a misery to her."

To deal with the pain appendectomy was performed in 1900. No relief.

In November, 1904, ileo-colostomy was performed.

After this she put on 28 lb., and became quite a different.

looking woman, with a clean skin, bowels regular, appetite returned, and felt markedly better.

In March, 1907, a sharp attack of abdominal pain followed by vomiting caused the diagnosis of perforated gastric ulcer, and a surgeon opened the abdomen; none was found. Recovery uninterrupted.

Since then she has been in excellent health and spirits, and now writes that she is quite well and thoroughly interested in and pleased with life.

CASE XLVII.—A single woman, who had suffered for years from severe constipation, and since 1905 had also passed mucus. This had been accompanied by great abdominal pain; her appetite had gone, and she had lost much weight. She showed marked signs of autointoxication.

In April, 1907, ileo-colostomy.

In January, 1911, her doctor writes that she is well nourished and looks well. Her colitis and constipation are quite cured. She has some abdominal pain still, and during an attack was seen by a consultant, who advised me to explore for gastric ulcer, which, however, I did not find.

She has been passing small uric acid stones from the right kidney, and this is associated with pain.

CASE XLVIII.—A single woman, who had suffered for years from extreme constipation, which had progressed, in spite of all treatment, up to an action once a fortnight. The act was accompanied by extreme pain, and was associated with left-sided abdominal pain, constant nausea, and attacks of vomiting.

In 1903 the abdomen was opened and a cystic ovary removed. Her condition became desperate; she was a yellow, sallow colour, markedly wasted, and at the end of her tether. For seven years she had been a complete invalid, and had scarcely been outside her house. At the time of the operation her condition was desperate.

In September, 1909, colectomy was performed, and the bowel was found firmly adherent, and a large mass of tuberculous glands was present, which involved nearly the whole of the mesentery of the small intestine.

In February, 1911, her doctor writes that "the improvement is really extraordinary. She has made a steady progress back to health. She is now quite plump again, and has put on a lot of flesh. She goes out and calls on her friends. She walks miles, and does all her housework. She is an entirely different person."

CASE XLIX.—A single woman, aged 40, had marked constipation for nine years, so that now by the aid of purgatives and enemata she averages one action a week. Frequent headaches. Constant cold hands and feet. Frequent abdominal pain. Is sallow and pigmented. Marked cystic changes in her breasts. She suffers from marked mental depression and inability. She cannot do any housework.

In August, 1910, an ileo-colostomy was performed, and she was discharged very markedly improved, much brighter mentally, her skin cleaner, vomiting and headaches gone. She is quite comfortable and feels much improved.

In February, 1911, she writes that she is still very pleased with her condition.

CASE L.—A man, aged 43, had always been inclined to be constipated. In 1898 he went abroad and had several attacks of dysentery with marked abdominal pain. He was treated by the greatest authorities, with only temporary benefit, and in August, 1906, soon after his return home was seized with haemorrhage and pain.

In January, 1907, an ileo-colostomy was performed with much difficulty owing to the anchored contracted condition of the rectum.

In March, 1911, his doctor writes: "The result of his operation has been excellent. Before it he was incapacitated by the frequent recurrent attacks of chronic dysentery. Since the operation he has had no trouble of this kind and has been able to return to work. I shall certainly recommend an operation if I have a similar case to deal with."

THE death of the life tenant having occurred, the Royal Victoria Hospital, Dover, has now come into possession of a large property known as The Shrubbery at Crabble Hill, near Dover. It was left to the hospital by the late Mr. Richard Coleman, together with a sum of money for its maintenance as a convalescent home.

DR. H. C. GROVES, who is about to leave the town of Monmouth after some twenty-four years of practice there, was the recipient on March 31st of a silver salver, a purse of 110 guineas, and an album containing an address and the names of over 600 subscribers. The presentation was made in the Rolls Hall by the mayor, who said that every man who did public work was submitted by the public to constant tests, which in the case of a medical man were of a particularly trying kind. He had to be genial, to be possessed of even temper; to be prepared to be called upon at any hour of the day or night; and to be ready to sacrifice the joys of life to a large extent in order to serve the public. Through all these tests, and many more, Dr. Groves year after year had passed unscathed, and thus had won the general esteem and admiration of the population amid which he had dwelt so long. Wherever he might go, he carried with him their very best wishes.

An Address

ON

ARTERIO-SCLEROSIS AND THE KIDNEYS.

DELIVERED BEFORE THE KENSINGTON DIVISION OF THE METROPOLITAN COUNTIES BRANCH.

BY

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(Continued from page 858.)

Bright's Disease and High Pressures.

OF the amyloid disease high arterial pressure is not a feature; but in acute parenchymatous nephritis and in acute interstitial nephritis, although in these maladies, and even in cases ending in recovery, the arterial pressures may rise suddenly to no inconsiderable heights and burden the heart severely, yet in them high pressures are of irregular and inconstant occurrence. Generally speaking, in England and in America, physicians from the time of Johnson and Wilks have divided chronic Bright's disease into Chronic Parenchymatous Nephritis and Granular Kidney, and the distinction is still recognized by Tyson* and Rose Bradford.¹⁸ All biological classifications are of course arbitrary, and divided by no hard and fast lines; but broadly speaking this distinction corresponds with clinical experience. In most cases the contrast of symptoms suffices to determine a diagnosis between the two kinds; and even in cases of doubt the difficulty of differential diagnosis probably lies more often in the data or opportunities of exact observation than in a blend of these morbid processes. Whether in particular cases the differential features may be conspicuous or not, Granular Kidney and Chronic Parenchymatous Nephritis are, each of them, a fairly consistent series throughout.

In the "Chronic Parenchymatous" clinical series, then, high pressures are by no means invariable. In this disease the heart, whether by dilatation or hypertrophy may be enlarged on both sides, if not to the same degrees; and in many necropsies no very great enlargement is notable. But in the granular disease the arterial stress, rising early and enormously, tells primarily and in the main on the left ventricle; dilatation of the right side being a late and secondary event, a condition of heart failure. Dropsy in granular kidney is rather cardiac than renal in nature. In respect of high arterial tension, then, in these diseases we have to do with variables as yet unappreciated.

Once more. As we may have chronic parenchymatous nephritis with high arterial pressure, or with comparatively little excess, or even with none, so conversely we may have high arterial pressures without any manifestation of renal disease. But in this important part of my argument I must tread warily, as I am entering into contested positions. Still, keeping as close as possible to accepted hypotheses, it is now generally admitted, I think, that Mahomed, v. Basch, Potain, Huchard, and myself were justified in declaring that high arterial pressures may and often do arise without renal disease in any accepted clinical sense—that is, without Bright's disease. Mahomed did suppose this increment to be a warning of Bright's disease, to be indeed a signal of its initiation; v. Basch and Potain took it to be a sign, and indeed a manifestation, not of Bright's disease, but of arterio-sclerosis. We have seen that Huchard, regarding arterio-sclerosis not as an anatomical result of several diseases but as itself constituting a disease, interpreted high arterial pressure as the first stage of it, and accordingly named this stage Presclerosis; as Mahomed, interpreting it as the first stage of Bright's disease, named it Prealbuminuria. My position, however, was this: that in the first place arterio-sclerosis was no unity, was not a "disease" in the clinical sense; and in the second place that although it was often associated with high pressures these were no necessary condition of it—a doctrine in which for some ten years I stood unsupported. Then

* In his valuable work on Bright's Disease and Diabetes.