constriction, was filled with quite recent blood. An end-to-end enterorrhaphy, with catgut suture, was done, and the bowel replaced; the abdomen was well irrigated with hot saline solution, and a large rubber drainage tube passed down into the pelvis, the abdominal wound closed around the tube, layer by layer, and patient given a rectal saline with brandy, and sent to the surgical ward. On examining the resected portion of intestine, it was found that subjacent to the mesenteric attachment there was an old ulcer, showing loss of tissue of the mucosa, but without evidence of surrounding inflammation, and not involving the underlying muscular coats of the bowel. Opposite to this ulcer was a small abrasion in the mucosa, showing evidence of recent haemorrhage from some small vessel there, and this blood had dissected up between the mucosa and muscularis, causing a haematoma, opposite the ulcer, sufficient to quite obstruct the lumen of the gut at this point. Beyond the obstruction the blood was escaping into the proximal part of the bowel, where it was observed before resection. Cultures of the free fluid in the peritoneal cavity shewed *B. coli* infection. The pathologist's report of the specimen is as follows: "On mesenteric border of portion of small intestine removed, the mucosa is atrophied and tissues contracted at base of cicatrizing ulcer. Opposite mesenteric border is a haematoma beneath the mucosa. Underneath the area of atrophied mucosa is an effusion of blood. Lumen of bowel is filled with a blood clot. Mesenteric arteries show extensive sclerotic changes."

Result.—The patient made an uninterrupted recovery after the operation, the bowels acting the day following operation and regularly thereafter. He left the hospital in twenty-two days, is now at his work, and has regained his normal weight.

Remarks.—Clinically, this case was a rather unique and most interesting study to me, and before saying anything about the literature bearing on it I wish to refer shortly to the history. Here was a young man, with no history of venereal infection, it is true, who developed a typical tertiary ulcer on the eyelid. This chronic ulcer subsequently healed quickly and completely under mercurial inunctions (which were begun two days after operation), combined with pot. iod. grs. xv-xxx t.i.d., though locally it was not treated, except by an ordinary boracic compress. The ulcer in the bowel presented similar syphilitic characters, and we had evidence, microscopically, of an endarteritis, which, in a man of 23, with such an associated skin lesion, was presumably also syphilitic. The possibility of typhoid ulceration was thought of, but against that was the absence of other symptoms, the absence of the Widal reaction (for which we tried several times), and the position of the ulcer (at, and not opposite to, the mesenteric attachment). All these considerations, in conjunction with a typical tertiary skin lesion, yielding readily to antisymphilitic remedies, makes the diagnosis of syphilitic ulcer of the small bowel almost certain.

As I afterwards ascertained from the patient, there was a history of obscure abdominal symptoms for some time before admission to the hospital. He had noticed "pains in the stomach after eating" for a month previous, but he had had no vomiting nor had he lost flesh. He had also alternations of diarrhoea and constipation for about the same time, but never severe enough to interfere with his work. It would seem, therefore, that though the haemorrhage had produced the complete obstruction, he had doubtless previously suffered somewhat from the intestinal ulcer. He is still under appropriate antisymphilitic treatment.

The surgical literature on this subject is, so far as I have been able to examine it, very scanty. Many textbooks on surgery say nothing about the subject at all. Treves, in his work on *Intestinal Obstruction* says: "Excluding the rectum, syphilitic ulcers of the bowel are rare. They may be met with in any part of the intestine, but according to Rieder¹ are most common in the upper part of the lesser bowel..... It is said that syphilitic ulcers produce stenosis of the bowels. If any deductions can be drawn from the effects of tertiary syphilitic ulceration of the rectum this can be quite well understood. There is no doubt that a gumma in the wall of the gut may lead to a stricture without causing any ulceration of the mucous membrane."²

In that most excellent *Manual of Surgical Treatment* lately published by Messrs. Watson Cheyne and Burnhard, the reference reads (vol. vi, p. 352): "Syphilitic ulceration leading to stricture is very rare in any part of the intestinal tract except the lower part of the rectum." Rose and Carless³ state that "stenosis of the small intestine due to cicatricial stricture may arise from syphilitic disease, and may long remain chronic or almost unnoticed until some intercurrent condition produces complete obstruction." But no special stress is laid on the subject, and no case is cited.

The *American Textbook of Surgery* dismisses the subject curtly thus: "Syphilis of the intestinal tract in the adult has little interest for the surgeon" (p. 166). Similarly, even from a pathological point of view, I think we may safely say

that syphilis of the intestinal tract is a comparatively rare condition, and, as Treves says, is generally seen in the rectum and colon. Oberndorfer has collected 25 cases of congenital and 24 cases of acquired disease showing lesions in the intestinal tract. Fournier is mentioned as having found about a dozen cases.

Oberndorfer in his 25 cases of congenital lues reports as to the site of trouble in the intestine: jejunum, 9 cases; near ileo-caecal valve, 3 cases; colon, 6 cases.

Thoma recognizes the four following conditions which may be found in any organ as the result of syphilis: (1) Simple hyperaemia, with a few clumps of lymphoid cells in the region of the smaller blood vessels. (2) Exudate; this may be rich or poor in cells, and is usually accompanied by changes in the walls of the capillaries and smaller arteries. (3) Dense round-celled infiltration, together with formation of new connective tissue on the one hand and degeneration on the other, resulting frequently in superficial or deep ulcers. Dense scar tissue formed from the above-mentioned new connective tissue. Jurgens differentiates the syphilitic lesions of the intestine into three classes: (1) Superficial lesions; these usually show fatty and necrotic changes, and occur most frequently near the ileo-caecal valve. (2) Gumma. (3) Eruption of miliary nodules in the mucosa, serosa, and muscularis. The nodules closely resemble tubercles, but are distinctly yellow. Lochte found these in a necropsy of a case of congenital syphilis where other lesions made the diagnosis certain.

In children dying from congenital syphilis the intestines frequently show circumscribed or circular areas of hyperaemia, also patches of infiltration or definite ulcers. Scar tissue is found in rare instances. Exudates and adhesions in the peritoneum are found.

In acquired syphilis the same anatomical picture is presented with certain peculiarities. There is a marked tendency to the formation of nodules or girdles of infiltrated tissue, or else ulceration. The ulcers are usually flat, starting in the submucosa, and soon followed by loss of the epithelium. Their depth varies, perforation being not uncommon, resulting in local abscess or general peritonitis. In 35 cases of acquired disease there were 7 perforations. At least one such case has been seen in the congenital form.

On the other hand, the ulcer may heal with the formation of scar tissue and consequent stenosis. This has been seen in 7 cases, in 4 of which the intestine above the stricture was distinctly dilated.

The prognosis of this disease may be judged from the fact that a fifth of the cases die from perforative peritonitis, another fifth suffer from multiple intestinal stenoses, and a certain percentage have repeated intestinal haemorrhages. Involvement of the intestine is a very severe complication in syphilis.

As to the therapy, mercury and the iodides are, of course, indicated for the general condition. The haemorrhages should be treated by absolute rest and opium. Perforative peritonitis and stricture should be dealt with according to the general principles of surgery. These are a few extracts from a very full discussion on this subject, with excellent bibliography, in an article by Dr. A. Weiss, in the *Centralblatt für die Grenzgebiete der Medizin und Chirurgie*, August, 1902, which should be read by any one interested in this subject.

REFERENCES.

- ¹ Ann. Univ. Med. Sci., vol. 1, 1893, p. 31. ² Intestinal Obstruction, p. 208. ³ Manual of Surgery, p. 861.

SOME CASES OF INTESTINAL OBSTRUCTION SUCCESSFULLY TREATED.

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THE following paper is a sequel to a communication which I made last year to a society, entitled *Some Fatal Cases of Intestinal Obstruction*. In the discussion that followed the desire was expressed that on a future occasion I should bring forward those cases in which more success attended my efforts. This, then, is my apology for dealing with a subject that many will say is already worn threadbare.

For convenience I have arranged the cases as far as possible into groups.

CASE I.

Case I was that of a man aged 48 years who was introduced into the

Meath Hospital under Dr. Craig's care complaining of constipation, vomiting, abdominal distension, and pain. The previous history was that of occasional attacks of diarrhoea, but increasing difficulty in getting the bowels to act was the most noticeable feature. For over a week before admission the bowels had not acted, though he had taken several doses of medicine. The abdomen was enormously distended, the intestinal coils being clearly outlined. Vomiting was severe and decidedly stercoraceous in character. The clinical clerk administered an enema, but without any effect. Next day Dr. Craig asked me to see the man with a view to operation. On hearing the history and looking at the man the diagnosis of acute, supervening on chronic, obstruction was obvious, and its cause was easily determined on making a rectal examination. About 3 in. up the rectum was blocked with a fixed mass of cancer. On getting the patient to pass water immediately before operation some bright red blood was mixed with the urine, and the patient informed me that for some weeks he had been compelled to evacuate his bladder more frequently both by day and night than previously. This condition pointed to implication of the bladder by the growth. The stomach was washed out, ether administered, and a left inguinal colostomy performed, the gut being opened and washed out at once. This had the effect of prolonging the patient's life for close on four months, but his condition was truly pitiable on account of the cystitis and pain in the bladder. The bladder was irrigated twice daily, but morphine had to be given in large doses to subdue the pain and give rest.

CASE II.

Case II was that of a woman, aged 43 years, who was admitted into the Meath Hospital under my care with all the symptoms of acute obstruction. The previous history showed that on three occasions during the three previous months she had been under the care of a surgeon for similar, but not quite so severe, symptoms. On each occasion she informed me this gentleman ordered the "sister" to give her an enema, which acted, and in a couple of days she was again able to leave hospital. On examination the abdomen was considerably distended, the distension being much marked along the course of the colon. The vomiting was gushing and severe, but though of a brownish colour did not possess any faecal odour. The hernial rings were free, but rectal examination revealed a mass of cancer which was quite adherent to the sacrum behind, and I was doubtful as to whether it was not also adherent to the uterus in front. Left inguinal colostomy was performed as quickly as possible, and the gut opened and washed out. I know this patient was alive sixteen months after, but I then lost sight of her.

CASE III.

Case III was that of a man aged 50 years, who was admitted under my care one night last September complaining of constipation, abdominal pain, distension, and vomiting. For several months he had had considerable difficulty in getting his bowels to act. During this time he got a few attacks of diarrhoea, which he had attributed to the aperients he had taken. For six days before admission his bowels had not acted at all, while for a week before that they had only acted very slightly. The vomiting was bile-stained. The abdomen was generally distended, the distension being most noticeable along the course of the colon. The hernial rings were free, but rectal examination revealed a mass of cancer situated as high up as the finger could reach. As his condition was not very urgent a hypodermic of morphine was administered, and operation postponed until the next morning, when inguinal colostomy was performed in the usual manner, and the gut opened and washed out at once. Here, again, in a few days we had evidence of implication of the bladder, which was then daily irrigated with warm boric lotion, while the pain was relieved by morphine. In this case the obstruction was relieved and life prolonged for about two months.

CASE IV.

Case IV was that of a boy aged 7½ months, who was taken suddenly ill some sixteen hours previously with screaming, as if in severe pain, and vomiting. The pain seemed to come in paroxysms, with intervals between the attacks of five or six minutes, and was attended with profuse sweating; later, the intervals between the paroxysms were as much as half an hour. The bowels acted soon after the onset of pain, and again on two or three occasions, the last motion containing some blood. On examination the face was pale, the lips drawn, and the eyes sunken. A tumour could easily be detected in the position of the transverse colon, and there was a well-marked loss of resistance in the right iliac fossa. Acute intussusception was diagnosed, and the abdomen opened as soon as possible, under chloroform anaesthesia, through the right rectus muscle. The intussusception, which had extended as far round as the splenic flexure of the colon, was easily withdrawn and reduced in a moment or two, there being no adhesions, the abdomen was quickly closed by through-and-through sutures. Recovery was complete and rapid. The operation was completed in less than fifteen minutes.

CASE V.

Case V was that of a girl, aged 7½ years, who was taken ill six days before admission into Cork Street Hospital. Sudden pain, attended by vomiting came on while at school. The bowels acted soon after. The pain continued "to come and go, though not so bad," for the next six days. She vomited occasionally only, and the bowels acted twice or three times before going into hospital. On the morning after admission I was sent for and saw the girl lying rolled up in bed, looking exceedingly ill. From the time of her admission I was informed she had vomited everything she was given. The temperature was between 99°

and 100°, and the pulse about 140 to the minute. The abdomen was so rigid that nothing could be detected until a whiff of chloroform had been administered, when an intussusception was easily made out extending down over the left pelvic brim. The vacancy in the right iliac fossa was well marked. I had the child immediately removed to the Meath Hospital, where its abdomen was opened as soon as possible. The intussusception extended so low down the rectum that I had to get my clinical clerk to pass a finger into the rectum and push it up until I could get my fingers below its apex. Reduction was easily effected, the last part to be reduced after a little expression being the caecum coli with the appendix, which latter was only about 2½ in. in length, but certainly as thick as my index finger. The appendix was removed in the usual manner and the abdomen closed. The operation was completed in less than twenty minutes. The patient was discharged perfectly well in thirteen days.

CASE VI.

Case VI was that of a little girl, aged 2 years, who was taken ill a few hours before admission into hospital with abdominal pain and vomiting. The bowels acted twice soon after the onset of pain, each action taking place immediately after or towards the end of a paroxysm of pain. When seen by me about an hour after admission, except that the child looked seriously ill, with a little pale anxious face, my examination was entirely negative. Two drops of tincture of opium were ordered to relieve the child's suffering. Next day the condition was much the same, a paroxysm of pain occasionally making the child scream out, but she only vomited once during the twenty-four hours after admission. Examination of the abdomen both during and in the intervals between the paroxysms of pain failed to reveal anything. On the second day after admission a swelling could easily be detected in the right half of the pelvis. Pressure upon this caused the child to cry out and the abdomen to become rigid. Under chloroform the swelling could be easily felt to be a distinctly oval-shaped mass, and this was further confirmed by placing one finger in the rectum and the other hand on the abdomen. I decided to explore at once, so had the child brought to the theatre and the abdominal wall cleansed. While the abdominal wall was getting its final washing I noticed that the swelling could no longer be felt while immediately before this it was even visible. I hesitated for a moment or two as to what I should do but knowing that the last portion of an intussusception, which I considered this to be, is often difficult to reduce I desired to make a small incision and explore the abdomen with the finger inside and thus make sure that everything was right. Except for a little serous fluid that escaped on incising the peritoneum nothing abnormal was detected, and the small wound was closed with three silk-worm-gut sutures. The facial appearance of the child after this was quite different. Its recovery was complete. I have no doubt but that this was an example of intussusception reduced by manipulation. As regards the diagnosis we were not unmindful of the fact that Henoch's purpura sometimes closely simulates intussusception, but there was no evidence to warrant the suggestion that this was such a case.

CASE VII.

Case VII was that of a young woman of 21 years who was taken ill, five days before admission under Dr. Craig's care, with pain in the abdomen and vomiting. The bowels had not acted for two days before this attack. There was a history which pointed to an attack of peritonitis a couple of years before this. Several doses of medicine had to be taken and a doctor administered two enemata to her, but without any other result than that of increasing her pain and vomiting. Dr. Craig, seeing that she was suffering from acute obstruction, asked me to see her with a view to immediate operation. On examination the hernial orifices were all free, the abdomen was generally distended, but slightly more so just to the left of the middle line below the umbilicus, at which place she complained of tenderness on pressure. At this place also one could detect a distended coil of intestine on palpation. It was thought this was the most likely site of the obstruction. Rectal examination failed to reveal anything. On opening the abdomen freely through the left rectus a number of distended and congested coils protruded, and directly in the site of the previously detected tenderness the cause of obstruction was found to be a band encircling a bunch of the coils of the jejunum. Its separation was quickly effected, but in doing so a portion of the softened wall of the intestine was opened, giving exit to some of its contents. This was easily closed again by a few Lambert sutures. The coils of intestines in the pelvis were found to be firmly adherent to each other at acute angles, so that I have no doubt if they had not been separated the liberation of the strangulated coils of jejunum would not have completely relieved the obstruction. The only trouble subsequently was a severe diarrhoea, which started some fourteen hours after the operation and continued for several days. This was the first case in which I was led to wash out the stomach after as well as before the operation, as we noticed that though the stomach had been washed out thoroughly immediately prior to the administration of the anaesthetic, stercoraceous vomiting came on just as she was being lifted off the operating table. After being put into bed I passed the tube and washed out an enormous quantity of stercoraceous material, more, in fact, than I had been able to wash out prior to the administration of the anaesthetic. From the great benefit of the post-operative gastric lavage in this case and in subsequent cases I am of opinion it is a procedure which is of even greater importance than the ante-operative irrigation. To this procedure I drew your attention specially last session.

CASE VIII.

Case VIII was that of a woman, aged 54 years, who was admitted under my care with a large umbilical hernia and symptoms of intestinal ob-

struction. The hernial sac was opened up and the omentum separated from it with some difficulty, but there was no evidence of strangulated intestine. The omentum was pulled out and removed after ligatures had been applied. On passing the fingers into the abdomen after enlarging the orifice a distended coil of intestine was felt, and on examining this further it was found to be strangulated by a fibrous band, which passed upwards and backwards from the upper part of the umbilical orifice to the mesentery, to which it was adherent and from which it was easily separated, thus liberating the strangulated coil. The other end was ligatured and cut off and the wound closed. Recovery was uninterrupted.

CASE IX.

Case IX was that of a spare woman, aged 36 years, who was admitted into hospital with symptoms of obstruction of a chronic character. Diarrhoea alternated with constipation for some months, but for some days prior to admission the bowels had not acted. There was no vomiting. Pain was complained of for some time in the right iliac fossa, and a tumour was not only easily detected on palpation but was distinctly visible through the thin abdominal walls. A provisional diagnosis of cancer of the caecum and ascending colon was made, and exploration undertaken with a view to removal if possible. However, on opening the abdomen, the adhesions were so extensive and the mesenteric glands so enlarged, it was considered that a palliative procedure to obviate the inevitably acute obstruction was the only advisable course to adopt. A lateral anastomosis was then effected between the ileum and the left side of the transverse colon. This operation gave complete relief to the obstructive symptoms—in fact, the bowels acted a few hours after operation. The patient got occasional attacks of diarrhoea during the six months that followed before her death, but no evidence of obstruction.

CASE X.

Case X was that of a woman aged 55 years, kindly sent to me by Dr. Wallace Beatty. She was taken ill last Christmas night with abdominal pain and vomiting. This pain and vomiting continued during the night and up to the time she was seen by Dr. Beatty, who gave her husband a note addressed to me, in which he asked me to admit her into the Meath Hospital as an urgent case of intestinal obstruction.

I had her admitted and saw her soon after. The abdomen was distended, but chiefly on the right side. Some distended coils could be easily palpated. The pulse and general condition were good. The hernial rings were free, and rectal examination revealed nothing of importance. An enema did not produce any effect. Though her condition was not urgent, I determined to operate at once. When the abdomen was opened the caecum and ascending colon bulged into the wound. Their great distension rendered an accurate diagnosis of the state of things impossible, so the caecum was incised and its contents, as well as those of the ascending colon, evacuated. It was then seen that the cause of obstruction was a cancerous growth involving the hepatic flexure of the colon. Secondary deposits were found in the omentum and mesentery, conditions which precluded radical treatment of the stricture. The ileum was then brought across and fixed to the sigmoid flexure by means of the largest-sized Murphy button (as the quickest method). The small opening in the caecum was previously closed by a continuous Lembert suture. The condition at the end of the operation was very good, and since that she has never had a bad symptom. The bowels acted freely on the third day, and since the fifth day have been acting daily without medicine. The button was passed on the eleventh day. The woman is now convalescent.

CASE XI.

Case XI was that of a young man of 22 years of age who was sent to me by Dr. Sandes from Cork Street Fever Hospital on December 27th. He was taken ill the previous evening with pain in the abdomen and vomiting. On inquiry it was ascertained that he had been drinking heavily for some time before Christmas, but his bowels had always been regular, and he did not remember ever having had an attack of pain of this character prior to the present one. Dr. Sandes had diagnosed intestinal obstruction, but when I saw him soon after admission into the Meath Hospital I failed to detect any evidence of it. His pulse was 64, regular and strong; he had no pain whatsoever, no vomiting for several hours, the abdomen was soft and not at all distended. There was no tenderness anywhere. The hernial rings were free, and rectal examination did not give us any information. This was at 4 p.m. Nothing was given by mouth except very small quantities of milk and soda-water. He slept all night, had not a single spasm of pain, and did not vomit once. Next morning he felt quite well, wanted something to eat, and was very anxious to be allowed up. The examination of the abdomen was entirely negative; there was no distension. Having regard to the fact that Dr. Sandes, who had seen the patient in Cork Street Hospital, had diagnosed internal obstruction, I was careful to keep him in bed, but ordered a dose of oil, which I felt certain would precipitate matters if obstruction really existed. Orders were given to have everything in readiness for operation in case pain and vomiting recurred.

Some hours afterwards I received a telephone message to say the patient was in severe pain and vomiting profusely. I went across to hospital at once and proceeded to operate as soon as possible. The cause of the obstruction was found to be the passage of a loop of the lower portion of the ileum through a hole in the right side of the great omentum; the free end of the omentum beyond had become adherent to the mesentery of the small intestine close by, and in its turn was exerting further pressure on the herniated loop. The omentum was quickly separated and the strangulated loop easily reduced after en-

larging the opening in the omentum. This opening was then closed by a couple of catgut sutures, and the abdomen closed by suturing in tiers. The stomach was washed out and the patient put to bed. Except for an attack of pneumonia involving the upper lobe of the right lung, there was nothing in his subsequent condition to be apprehensive of. The bowels acted after a dose of calomel on the second day. He is now quite well.

CASE XII.

Case XII was that of a man, aged 31 years, who was sent to me four weeks ago from Cork Street Fever Hospital, where he had been treated for the previous month for typhoid fever. On the night prior to being sent to me he was taken suddenly ill with pain in the abdomen and vomiting. Dr. Day saw him soon after, and believing him to be suffering from appendicitis sent him to me next morning. I saw him immediately on admission when the patient looked very seriously ill. The abdomen was slightly distended, and generally resonant on percussion. There was slight rigidity over the right lower quadrant of the abdomen. The bowels were confined and an enema had no effect. Rectal examination revealed nothing of importance. The pulse was about 120, but fairly strong. I felt doubtful as to the diagnosis, but as the aspect of the patient was that of one suffering from some severe peritoneal lesion I opened the abdomen as soon as possible by a small incision. On dividing the peritoneum a considerable quantity of serous fluid escaped. This fact coupled with the history of severe pain and vomiting coming on suddenly led me to form the opinion that the case was one of intestinal obstruction. This opinion was further confirmed by the appearance of a distended coil of small intestine, while the caecum was found to be empty. On passing my fingers down into the pelvis I immediately detected the cause of obstruction. The abdomen was then freely opened. The cause of the obstruction was found to be an adhesion between the left side of the great omentum and some inflammatory material in the right side of the pelvis, a coil of ileum being strangulated round the adherent omentum. The omentum was easily separated, thus liberating the strangulated coil. An enlarged and softening omental gland was removed from the omentum close to its attachment to the transverse colon on the left side. The adhesions in the pelvis were then separated, in the midst of which was found the appendix diseased. Its mesentery having been ligatured I removed the appendix in the ordinary way, after which the abdomen was closed. A small piece of gauze was placed in the pelvis where the adhesions were separated, as a couple of drops of pus were seen during the separation of the adhesions. The gauze was brought out through a small opening previously made in the appendix region. The stomach was thoroughly washed out immediately after the operation. The gauze was removed in twenty-four hours, and for about thirty hours everything went well, but about this time vomiting and hiccough of a distressing nature supervened. Examination of the abdomen showed that there was no reason to be apprehensive of peritonitis. There was neither tenderness, rigidity, nor pain. The epigastrium was greatly distended, indeed the stomach seemed almost outlined on the abdominal wall. The stomach was then thoroughly irrigated, a procedure which gave great relief from the sickness and hiccough for some hours, but eventually the vomiting returned worse than ever, being this time almost black or of a very dark brown colour. The bowels had meantime acted freely, and there was no colicky pain suggestive of recurrence of the obstruction. The stomach was again well irrigated with sodium bicarbonate solution, and orders were given to repeat the process as often as there was any recurrence of the vomiting. In all, the stomach had to be washed out four times after this with the result that the patient is now quite well. He suffered from an attack of parotitis which lasted for three days and then subsided.

CASE XIII.

The last case is that of a gentleman aged 71 years, whom I was asked by Dr. Craig to see in Portobello Private Hospital on June 20th last. At that time he was suffering from a large abscess situated in the anterior abdominal wall. Under anaesthesia it was opened and an enormous quantity of very fetid pus evacuated. The cavity was well irrigated and its walls, which were in a sloughing condition, as thoroughly cleaned as it was possible to do. Two drainage tubes were passed into the cavity and the usual dressings applied. That night, for the first time for several days, his temperature was normal. His bowels were well moved by an aperient given the previous night and an enema administered a few hours before operation. On the fourth day he was so well and felt so hungry that he insisted on getting solid food; the bowels acted well during the night. The discharge from the abscess was still slightly fetid.

On June 24th—that is, the fifth day—he felt uneasy in the stomach, with an inclination to sickness, vomited once, and told me he knew he had eaten too much on the previous day. Solid food was stopped and an enema ordered.

On June 25th, at 3.30 a.m., I received a telephone message to say patient was vomiting enormous quantities of black material and was very weak. On arrival a few minutes later I found the abdomen greatly distended, the breathing very quick, and the pulse very feeble and irregular. At my request Dr. Craig was sent for, and in the meantime I proposed to wash out the stomach. The vomited material was so black that Dr. Craig and I were of opinion there must have been haemorrhage into the stomach. The stomach tube was then passed, and at least half a gallon of this black stuff removed. The gastric lavage was continued until the fluid returned quite clear. It was also seen that the irrigation had considerably reduced the distension of the upper part of the abdomen. Ten drops of adrenalin chloride were administered by mouth and one-thirtieth of a grain of strychnine was given hypodermically.

After some time, as there was no sign of returning sickness, two compound colocynth pills were given. An enema was ordered to be given at 8 p.m. if the bowels did not act before that time.

At 10 a.m., when Dr. Craig and I arrived, we were informed the only effect of the enema was the expulsion of some flatus, the fluid returning scarcely discoloured. The abdomen was somewhat more distended and tympanitic, especially in the umbilical and subumbilical region. There was no pain, tenderness on pressure, or rigidity. Patient informed us his bowels were at all times difficult to move, and that he was in the habit of taking at least 8 to 10 oz. of Apenta water for a dose every morning, and insisted that we should give him that amount as he knew it would give him relief. His temperature at this time had risen to 101.6° , and the pulse was if anything more irregular and feeble. There had been no vomiting since the lavage. Only small quantities of milk and brandy were allowed.

At 8 p.m. his condition was unchanged. There was no action from the bowels. The passage of a small amount of flatus was the only effect of an enema.

June 26th. No improvement; abdomen more distended; outline of large intestine very distinct; no tenderness unless directly over site of abscess; no rigidity. There was still no return of the vomiting but hic-cough was distressing. The discharge from the abscess had almost ceased and there was no fetor; still there was no action from the bowels. Operation was recommended, but this he refused to listen to, and demanded more medicine by mouth and another enema. An enema of warm oil was ordered but we did not consider it advisable to give any more aperients by the mouth.

8 p.m. General condition worse; distension enormous and interfering greatly with respiration; the heart's action had become very irregular and weak; the temperature was about 101° F.; the enema had produced no effect. We again strongly urged operation but the patient just as firmly refused to entertain the idea. Still there was no vomiting but the hic-cough had become almost continuous.

June 27th, 10 a.m. The only change noticed was that he seemed to be wandering a little in his mind but he firmly declined operation.

6 p.m. As the bowels had not acted he then said he would allow us to operate, but my impression was that he scarcely realized what that meant. Though it seemed almost hopeless, I opened the abdomen by a small incision through the right rectus muscle and tied a Paul's tube into the first loop of gut that presented. This was done as he lay in bed without any general anaesthetic. A little eucaïne was injected into the site of the proposed skin incision. On incising the peritoneum some serous fluid escaped, and a coil of intestine—whether large or small bowel I could not say—was pressed up against the abdominal aspect of the edges of the wound. The distension of the coil was so great that it was impossible to pass the finger round it or hook it up into the wound, but it seemed to be pressed with such force against the wound that I thought it safe enough to puncture it where it lay. The edges of the small opening made by the knife in the gut were quickly caught with forceps and the bowel pulled forward as its contents were forcibly ejected. When sufficiently emptied to be well pulled forward into the wound, a clamp was placed on the edges of the opening, and with three or four sutures the walls of the gut were fixed to the peritoneum and deeper structures of the wound. A Paul's tube was tied in with a pursestring suture and the wound around the tube and intestine loosely packed with gauze. A copious discharge took place from the bowels during the subsequent twenty-four hours, at the end of which time the patient pulled it out. He was still somewhat delirious, temperature 102° ; pulse unchanged. Said he felt A., but did not look it. Abdomen getting quite flat. The subsequent course is easily told. For three or four days he hovered between life and death, very little hope of recovery being entertained.

At 5 a.m. on the fourth morning after this, we were again sent for to say he was dying, but $\frac{1}{16}$ gr. of strychnine with $\frac{1}{16}$ gr. of atropine, followed by mx of adrenalin chloride revived him and from this on except for a little bronchitis to which he was subject he never had a bad symptom. The bowels acted slightly in the ordinary way, and from this on were kept acting daily by glycerine enemata. The faecal fistula closed spontaneously and was soundly healed in six weeks. The patient is now in perfect health. He told me last week when I met him by accident down town that his bowels acted daily sometimes after medicine, sometimes after a glycerine enema.

With respect to the first group of cases due to rectal cancer I will merely state that, speaking generally, sufficient attention is not paid by the general practitioner to the attacks of diarrhoea, for which, in the vast majority of these cases, the patient is first driven to consult a medical man. Temporizing with the diarrhoea instead of introducing the finger into the rectum means loss of time, and only too often permits the case to drift into that hopeless condition in which radical treatment is absolutely out of the question.

The second group of cases is illustrative of what, on the whole, is probably the most common cause of acute obstruction. The mortality of these cases is very high, and, I believe, is higher still than is shown by statistics, for the simple reason that many infants die from intussusception without the condition having been diagnosed or even a suspicion of such a condition having been entertained; while, on the other hand, many cases correctly diagnosed but operated upon too late are never published. The majority of cases of acute intussusception ought to be recognized without

much difficulty within twelve or fifteen hours after the onset. If, then, such cases were submitted to immediate operative interference in anything like suitable surroundings there is no reason why the mortality should be more than one-half what it is at present. A competent operator in an early case will not take more than fifteen minutes at the outside to complete the entire procedure, and, so far as my experience of operations in young children goes, it teaches me that operations are relatively as well borne by them as by adults.

Cases of intestinal obstruction due to bands, of which Cases VII and VIII are examples, are perhaps amongst the most satisfactory the surgeon has to treat, for very often the symptoms are urgent from the start owing to the fact that there is generally a considerable disturbance of the circulation and nerve supply of the parts. The severity of the symptoms is almost always directly proportionate to the suddenness and extent to which the normal circulation is impeded and the innervation interrupted. Diagnosis is thus comparatively easy and operative interference sought for while the patient is still in a fairly good condition.

On the other hand, acute obstruction due to adhesions, if these are at all extensive, is perhaps the most unsatisfactory form of obstruction to treat. The separation of the adhesions is tedious and difficult, and the operation is generally prolonged, as the result of which the patient often sinks, while, should the patient recover, the re-formation of the adhesions with recurrence of the obstruction at a later date is not at all unlikely.

Obstruction due to stricture, whether simple or malignant, if urgent, is best treated by temporary drainage, the diseased part being subsequently removed and the continuity of the bowel re-established. If not urgent, resection and end-to-end anastomosis gives good results. If resection is impossible, and the case not urgent, a short-circuiting operation should be done.

If called upon to perform short-circuiting again, I intend to cut the ileum across, close its lower cut end, and then fix the upper cut end into the bowel below. This will prevent any faeculent material passing into the excluded loop, a condition which might be attended by serious results.

Case XI, in which the loop of intestine passed through a hole in the great omentum, is the only one of the sort I have seen; its treatment was both easy and satisfactory.

The last case is an interesting one. The obstruction must undoubtedly have been of an adynamic nature. Probably the inflammation spread from the abscess sac to the parietal peritoneum, and involved the wall of the sigmoid flexure, thus producing some temporary paralysis, while the resulting distension above led to an acute kinking or bending of the intestine, with consequent obliteration of its lumen at that point. The salutary effect of the establishment of a temporary faecal fistula is here well exemplified. The therapeutic value of gastric lavage for what may be termed post-operative gastric paralysis or dilatation associated with profuse vomiting, which in many cases becomes quite black, and which, if not energetically treated, invariably ends in death, is well evidenced in this case, as well as in Case XII.

There is but one other point to which I must allude. It is that of the treatment of the distended intestine after the cause of obstruction is removed. Every surgeon knows how difficult it is to deal with this condition. A single puncture evacuates but a coil or two at most, while the passage of a soft rubber tube through this opening and running it up the lumen of the intestine to evacuate further coils is disappointing. Multiple punctures relieve the condition still more, but this procedure necessarily takes up a considerable amount of time, and we know these patients are not in a fit state to stand prolonged operations, while of course large quantities of the septic material must still be left behind. Recognizing the benefits obtained by gastric lavage, I have been thinking for some time whether intestinal lavage could not be employed with similar beneficial results in these cases, and I have been further strengthened in this view by reading Kocher's method of treating acute septic peritonitis, in which he washes out the greater part of the small intestine. This is done by bringing out a loop of the upper part of the jejunum, and making a small opening into it, through which the nozzle of an irrigator is introduced. A loop of the ileum is opened low down, and the whole area of intestine irrigated between these two openings. In the case of obstruction, of course the lower opening should be made some little distance above the site of obstruction after relieving it. Such a procedure should occupy less time than multiple punctures,

while of course all the septic decomposing contents of the intestines are completely washed out. If such a line of treatment has been proved beneficial in septic peritonitis, it should surely prove more so still in acute obstruction, for in this latter, after the relief of the obstruction, death is almost always due to the absorption of the poisonous products from the intestine. Prevent this by removing them completely as can be done by irrigation, and many lives should be saved.

ON CONGENITAL HOUR-GLASS STOMACH.

By W. F. BROOK, F.R.C.S.,
Senior Surgeon, Swansea Hospital.

As Mr. Moynihan has shown in his able and most interesting paper on hour-glass stomach, published in the *BRITISH MEDICAL JOURNAL* of February 20th, this condition is almost invariably acquired; and no doubt many surgeons, bearing in mind their own experience, will be inclined to agree with him that its congenital origin is probably a myth.

This would certainly have been my belief after reading his paper had it not been for a case which I met with in June last. Prior to this, so far as my own experience went (but I do not for a moment suggest that it had been sufficient to warrant the formation of any independent conclusion), every case of hour-glass stomach which I had seen, whether on the operating table or *post mortem*, bore ample evidence of having originated in one of the three conditions which Mr. Moynihan mentions, but especially malignant disease and chronic ulceration. Where the latter had been the cause I had on two occasions met with perforation at the isthmus into the general peritoneal cavity. The first was in one of three cases ending fatally out of nine in which I had operated for perforate gastric ulcer. The other occurred in a patient while slowly recovering in the Swansea Hospital after an ovariectomy in which persistent oozing from the raw surfaces resulting from separation of very extensive adhesions had necessitated packing the whole pelvis with gauze. The patient died within three hours of the onset of symptoms, and before the house-surgeon had realized what had happened. The posterior wall of the constriction, which admitted three fingers, consisted of an old ulcer whose base was formed by adherent and eroded pancreas, the perforation being in front.

The following case however is, I think, clearly of congenital origin. I saw the patient with Dr. E. B. Evans, of Swansea. He administered the anaesthetic at the operation while his son, Surgeon Alban Evans, R.N., formerly house-surgeon at the Swansea Hospital, kindly assisted me. Unfortunately, no necropsy was obtained.

History.—The patient was a school-mistress, aged 50. She had been liable since girlhood to pain after food at no fixed interval, followed and relieved by vomiting. At times she was very ill and unable to continue her occupation. Notably was this the case in 1882. In the early part of 1902 she was much reduced and incapacitated by incessant vomiting; but between September, 1902, and the spring of 1903, she had been very much better and had gained weight. From this time she commenced to go down-hill again, losing flesh, the pain and vomiting becoming worse and worse, until she finally took to bed early in June. There was no history of haematemesis or melaena.

Condition when First Seen.—When I saw her she was extremely emaciated, everything, even peptonized food, being vomited, and she was rapidly going from bad to worse. The stomach did not appear markedly dilated. The diagnosis lay between pyloric or hour-glass stenosis. The general enfeeblement was so marked that it was decided before operating to endeavour to pick up the strength by rectal feeding. Under this treatment the vomiting ceased, the pulse became stronger and less rapid, and the general condition greatly improved, and had the operation been done at the end of five days it might have had a successful issue. On the seventh day the enemata were returned and retching and vomiting recurred, and it was decided to operate without further loss of time.

Operation and Result.—Upon opening the abdomen on July 1st the stomach, which was unusually thin-walled and could be easily withdrawn, was found to be divided into two pouches of about equal size by a narrow constriction. The peritoneum covering the isthmus was free from adhesions both in front and behind. It was as transparent, glossy and free from thickening as that covering either pouch and the omenta continuous with it above and below showed no sign of puckering. Palpated between the finger and thumb it showed no more thickening than a fold of the stomach picked up at any other spot. The pylorus and both pouches were free from thickening and showed no external indication of chronic ulceration. Upon incising the isthmus, which would admit of a No. 7 or 8 catheter, both the mucous membrane lining it and that of either pouch to a distance of some two inches, was readily and carefully inspected. It was soft and velvety throughout, and showed not the slightest sign of cicatrix. The operation of gastro-

plasty was rapidly completed, but the patient unfortunately sank and died ten hours later.

It is obvious that so narrow a constriction in the stomach must be a very vulnerable spot, so that it is not improbable that congenital hour-glass contraction may actually lead to ulceration, when traces of the latter, if found, would be liable to be wrongly interpreted as evidence of a pathological origin of the deformity. A case referred to by Messrs. Robson and Moynihan,¹ although quoted as an example of the way in which an hour-glass stomach of chronic inflammatory origin, unless very carefully examined, may appear to be congenital, would seem to admit of such an explanation.

REFERENCE.

¹ Robson and Moynihan, *Diseases of the Stomach and Their Surgical Treatment*, pp. 174-5.

CASE OF CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.

By ARTHUR J. CLEVELAND, M.D. LOND., M.R.C.P.,
Norwich.

THERE is little doubt that this condition is much commoner than was at one time supposed, and in view of the successful results that have of late attended operations for its relief, it is important to record cases of the disease verified by actual examination, in the hope that by so doing early recognition, and consequently early interference, may become easier. Unfortunately the two chief symptoms, vomiting and constipation, are by no means rare in infants, and may be due to faulty diet, while the peristalsis and other conclusive evidence of a dilated stomach may, as in this case, only become obvious when the general condition of the child is too bad to enable an operation to offer much hope of success.

A male child was first seen by me when two months old, for vomiting, constipation, and wasting. He was a fine baby at birth, but when 14 days old began to vomit and suffer from constipation. He took the breast well but returned what he got immediately after finishing a feed—sometimes the vomit was large in amount, but food was never retained but vomited an hour or so later. The bowels were very obstinate in spite of treatment, being opened on an average once a week, and on one occasion no motion was passed for thirteen days. The child had wasted rapidly, and when I saw it was little more than skin and bone with a pinched face, depressed fontanelle, and feeble cry.

There was no abdominal distension, and beyond a considerable increase of stomach resonance both to direct and auscultatory percussion, there was nothing to confirm my suspicion of the actual condition. A week later well-marked peristalsis was visible from left to right over the upper part of the abdomen, and I elicited a succussion splash. I could not feel any lump in the region of the pylorus. The question of operation was discussed, as the diagnosis now appeared certain, but the general condition of the child was very bad, and the parents would not consent to what was rather a hopeless remedy. He died of exhaustion three weeks later, when 3 months old, the pertinacity with which he clung to life being all the more astonishing as during that time he had frequent fits, passing from one convulsion into another, according to the mother's account. I never saw the child in one of these fits, which from the mother's description I took to be tetany.

The necropsy was limited to the abdomen. The lower border of the stomach reached to the umbilicus, and the viscus occupied the whole of the epigastric and left hypochondriac regions. The pylorus was hard and felt almost cartilaginous; it measured $\frac{3}{4}$ in. in length and was shaped like a bobbin, namely, with a constriction in the middle and a maximum circumference at either end of $1\frac{1}{2}$ in. It admitted an instrument with a circumference of $\frac{3}{8}$ in. The mucous membrane lining it was thrown into folds; there was no ulceration.

The stomach had lost its normal shape, its walls were thin, and the mucous membrane smooth. The intestines appeared almost empty, and there was scarcely any fat to be seen on the child.

Microscopically the hypertrophy was mainly in the circular muscle coat, with some increase of fibrous tissue.

MEDICAL MAGISTRATE.—Dr. Wm. Henry Lewis, of Llansantffraid, has been appointed a Justice of the Peace for the County of Montgomery.