normal, he was ordered tincture of belladonna, and tincture of perchloride of iron, in five-minim doses, three times a day. On January 12th, the appetite had improved, but the enuresis was the same. Stohrer's apparatus was now used for ten minutes daily, the sponges being placed over the sacrum and pubes. The iron and belladonna mixture was continued. On the 18th of February, the report states that he had passed several nights without wetting his bed; but, as the urine contained phosphates, and the boy seemed very weak, he was ordered ten minims of dilute phosphoric acid, with two minims of liquor strychniæ, three times a day. On March 9th, the urine being normal, fifteen minims of the tincture of belladonna were given twice a day. The use of the battery was discontinued. From the 17th to the 21st, he was not wet at night, but was wet on the nights of the 22nd, 23rd, 25th, 26th, 27th, 30th, and 31st. From April 1st to the 12th the bed was dry at night; on the 13th it was slightly wet, and, therefore, the tincture of belladonna was increased to forty-five minims daily. He invariably awoke to pass urine, whereas formerly he wetted the bed without knowing it. On April 19th, he went to Brighton, and stayed a month there. He had a sea-bath morning and evening, and was out the greater part of the day. For seventeen consecutive nights he did not wet the bed. During this time, he took two drachms of the belladonna mixture twice a day, being equal to one drachm of the tincture daily. The use of the battery was discontinued. It was noticed that his pupils became very large, and when he attempted to read he saw a mist before his eyes. On September 1st, it was reported that he had perfect control over his bladder in the day time, and had not wetted the bed oftener than once a week, and then but slightly. He has had no return up to the present date, January 25th, 1886.

CASE V.—A young lady, aged 9, was brought to me by her mother in September, 1885, suffering from enuresis of nearly a year's duration. All treatment had failed to relieve her. The use of the battery was ordered every night for ten minutes, and a mixture of belladonna and iron three times a day. These measures were continued for six weeks, when the patient was well, and she so remained for three weeks afterwards, when the symptoms returned slightly, "but not nearly in the same degree." The battery got out of order, and, the patient living in a remote Irish district, there was a difficulty in getting it repaired. If the use of the battery be resumed regularly, the cure will be complete.

REMARKS.—It seems impossible to lay down a plan of treatment for general adoption; the peculiarities of constitution and habits of life must be taken into consideration, and haphazard treatment guarded against. The cases recorded were cured or relieved by the combined influence of electricity, iron and belladonna. Cases 2 and 3 are good examples of the utility of faradisation. Case 4 is a very important one; the symptoms dated from birth, and resisted various methods of treatment. The successful issue is in a great measure attributable to the constant care which the mother took in feeding the child, and rigorously attending to my instructions. Those cases that date from birth, or have lasted upwards of a year, are invariably intractable, and often incurable, especially if the child be of nervous parentage, or were delicate when born, or pass large quantities of urine. With respect to the utility of faradism there can be no question; it requires to be used regularly, and to be continued for a considerable time, but it sometimes fails altogether. When the nervous system is weak, and there is general debility, the sphincter loses its power, and urine escapes by night and day without the child's knowledge. It is in such cases as these that iron and nux vomica are of service.

If there be excess of muscular action, and the child have frequent inclination, without power of control, belladonna is an admirable remedy. It occupies a prominent place as a therapeutic agent, and sometimes, when combined with iron, even in small doses, it seems to do good; but it should not be given up in obstinate cases, till either soreness of the throat is produced, or dilatation of the pupils takes place. In my hands it has often failed when administered in any form or dose. It certainly tends to lessen irritability of the bladder, and should always have a fair trial.

Cold sponging in the morning is very serviceable in cases of enuresis that appear to have their origin in general debility. It braces up the nervous system, and is a powerful tonic. The slight sensation of chilliness soon passes away, without leaving any depression, if vigorous friction with a towel be employed for a few minutes. In a case under my care about three years ago, the cure was attributed to this simple measure, when one remedy after another had failed. The vital functions are brought into a healthier state, the skin acts better, and the appetite and digestion improve. However delicate a child may be, ree sponging in tepid water, followed by a good rubbing, is of great

value. The water may be used at a temperature of 90° at first, and as the child becomes stronger, may be lowered to 70°.

Now, a word as to diet. Milk is an important non-irritating article of food, and should be mainly relied upon in these cases; but the quantity given at one time should be restricted, especially on going to bed. Farinaceous puddings, containing eggs, are admissible. When the urine is turbid and acid, or the child is rheumatic, milk ought to take the place of nitrogenous food. A child, under my care at the present time with "a large white kidney," is troubled with frequency of micturition when allowed a little beef-tea, whilst, when adhering to the milk, she only passes urine twice, or at most three times in the twenty-four hours. In states marked by anæmia and general debility, however, animal food is an essential article of diet.

A CASE OF GASTRO-ENTEROSTOMY FOR CANCER OF THE PYLORUS AND STOMACH: GOOD RECOVERY. A NEW METHOD OF SUTURE.

By ARTHUR E. BARKER, F.R.C.S.,

Surgeon to University College Hospital, and Teacher of Practical Surgery at University College.

I DESIRE to publish the following case simply as a record of facts bearing upon a most important question in the surgery of the present day; namely, the position which operations on the stomach are to take in the future. The whole question is now, and must remain for some time still, *sub judice*. For, though a good deal has been already done, both at home and abroad, in the field of gastric surgery, the cases have been so isolated, and the operations have been performed by different surgeons under such varying conditions, that we have as yet but slender grounds for safe generalisation. It appears desirable, then, that every item of information regarding these operations should be recorded as fully as possible, and carefully studied. If it be true that it is difficult to decide as to the exact position of radical operations for cancer of internal organs, it is immeasurably more so to arrive at a decision as to the position of palliative operations.

Since first designed and performed by Weillier in 1881, gastro-enterostomy has been undertaken at least twenty times abroad. In sixteen of these cases it was done on account of advanced carcinoma of the pylorus, with ten deaths, and in four for non-malignant pyloric stenosis, with one death. Most, if not all, of the first sixteen were desperate cases for any operation.

As the following appears to be the first recorded instance in which the operation has been performed successfully in this country, and as the foreign sources of information are scattered, and not accessible to the general reader; and as, further, I devised and practised here a new method of suture which seems likely to offer advantages in the future, I venture to describe this case rather in detail.

The patient, Mrs. L., aged 37, the mother of eight children, one of whom died of a malignant growth in the neck in infancy, began to suffer from severe gastric disturbance a year and a half ago. This consisted of great sickness and vomiting, with pain in her stomach. Since then, hardly a day passed without retching; this was always worse after dinner, but was less in the evening, and when the patient was at rest.

On August 25th, 1885, the patient noticed a lump, about the size of a walnut, in the epigastric region, and, at the same time, the vomiting and pain became much worse; the latter was aching and dragging in character. The tumour had grown larger since, especially within the last three months. When first noticed, the lump, the patient thought, was a little more to the left than now; it appeared irregularly nodulated from the first.

On admission into University College Hospital on December 19th, 1885, the chief complaint was pain in her left side, and great weakness and loss of flesh (weight 7 stone 3 lbs.). During the week preceding, her attacks of sickness had not been so severe; she had had only four or five. The vomit was watery and frothy, but never consisted of food, and never showed traces of blood; there had been much constipation for a long time.

State on Admission.—In the middle line of the body, about two inches above the umbilicus was a hard nodular swelling, about the size of an egg, very superficial, and very mobile. It shifted spontaneously from side to side during the day, and ascended a little, but did not descend below the point indicated. When in the middle line, it pulsed with the stroke of the aorta. It was tender on pressure, and caused most suffering when it lay towards the left side. There was no deficiency of resonance to be detected over it, and there was no gastric dilatation

the tumour moved with respiration; the abdominal organs appeared quite healthy.

On December 28th, I made a careful examination of the abdomen under ether. The tumour could now be easily grasped through the thin parietes, and was found to be rugged in outline, about half the size of an orange. It showed the most remarkable mobility in all directions except downwards. It could be easily pushed under the last rib on the right side, and be there felt with the hand. It could be pushed almost into the same position on the left side, but with greater difficulty. It could not be made to descend. Nothing else abnormal was discoverable in the abdomen. After this examination, the patient was sick several times, but brought up no blood. The urine remained normal. From this examination, I strongly suspected cancer about the pylorus, though it was clear that there was much room for a difference of opinion as to the nature of the tumour, and I thought it might possibly turn out to be a floating kidney. One of my colleagues suspected a collection of biliary calculi in the gall-bladder. As the patient was very anxious for operation, I explained the matter fully, and agreed to make an exploratory incision, and be guided by what was found. Every preparation was made for dealing with whatever kind of tumour should be found, and especially for excision of the pylorus, should it be necessary. The stomach was washed out twice on the day before operation, and again two hours before the latter with warm water, introduced through a long flexible tube; and no food was given afterwards. With the most scrupulous care as to antisepsis, I operated on January 5th, 1886, under the spray. An incision was made in the middle line, from just below the ensiform cartilage to the left side of the umbilicus. When the peritoneum was opened, the tumour presented at once to view. It was then easily diagnosed to be a mass of new growth, reaching from the anterior border of the pylorus about three inches to the left, and upwards towards the lesser curvature of the stomach. It was about the

size of half an orange, flat externally underneath the serous covering of the stomach, and projecting into the narrow end of the latter. The posterior segment of the pylorus appeared sound to the touch. The tumour was perfectly non-adherent, but there were a few small hardened glands in the gastro-colic omentum. From the position of the growth and the presence of infiltrated glands, I concluded that excision of the pylorus was contra-indicated, and at once commenced the palliative operation of gastro-enterostomy, or the establishment of an artificial opening between the stomach and jejunum (*vide plate b*). After pushing the omentum, which was not voluminous, to the left, the first part of the jejunum was caught in the fingers, and a loop of it was drawn out of the incision. The middle of the anterior surface of the stomach was also drawn out, and was supported all round by warm carbolised sponges. I now passed a piece of the India-rubber tubing through the mesentery at each end of the loop of intestine; and, having emptied the portion of gut between by gentle pressure, drew the ends of the tubing tight enough to prevent access of the contents of the bowel into the loop to be operated on, and fixed each piece of tubing with a catch-forceps. The empty loop of gut was now laid upon the portion of the stomach to be opened; and a longitudinal fold of the latter, about an inch and a half from the great curvature, was pinched up between the finger and thumb of the left hand, together with the collapsed gut. I now made an incision about an inch and a half long in the fold of the stomach, and another corresponding in the approximated

fold of gut. These incisions only penetrated through the serous and muscular tunics, and left the mucous coat of both viscera intact for the present. Still holding the parts, as before, between finger and thumb, I now united the corresponding posterior edges of the wounds by a continuous suture, the needle entering and emerging in each case between mucous and muscular coats, and the threads crossing the cut edges of the muscular and serous coats. In this way, the serous surfaces were closely united from end to end before either viscus was opened. This row of stitches (which were about an eighth of an inch apart) was carried about a quarter of an inch beyond each end of the incision in the coats of the bowel. The moment had now come to open both the stomach and intestine completely; and this was done with a stroke of a scissors through the mucous coat in each case, special sponges being ready to receive any fluid which might escape. A few drachms of *succus entericus* flowed from the bowel, little or nothing from the stomach-opening. After careful cleansing, the anterior borders of both openings were now united by a row of interrupted fine silk sutures, introduced according to Czerny's method. When this was completed, the two openings were securely closed; but, as an extra precaution, the intestine was turned over, and the posterior suture was reinforced by a second row of interrupted sutures, placed about a quarter of an inch away from the first. The anterior row was then similarly reinforced by a row of continuous suture, taking up, as before, only the serous and muscular tunics. The elastic compressors were now removed from the gut. Lest there should be any "kinking" of the latter, as in one of Billroth's cases, I stitched its efferent portion to the stomach-wall, about three-quarters of an inch from the right extremity of the opening between the stomach and jejunum now established. The "toilet" of the peritoneum, replacement of the viscera, and closure of the external wound, completed the operation, which had lasted an hour and thirty-six minutes. The wound was dressed with salicylic wool. This mode of suturing the posterior edges of the opening before the stomach is actually opened appears to be a new departure, and offers many advantages, which are obvious.

The patient bore the operation, on the whole, well, though towards the end the pulse became a little feeble. She was warm and comfortable when removed from the table. Peptonised enemata were ordered every six hours, and only ice by the mouth. There was no marked shock noticeable when she had recovered from the anæsthetic, but she complained of pain about the abdominal wound and to the left of it internally. She soon vomited some turbid fluid, and continued to do so for a couple of days, at intervals of four or five hours, bringing up from one to two ounces each time. This was not relieved much by hypodermic injections of morphine. As the vomiting went on, the fluid brought up became more and more turbid, and then became very fetid. It clearly contained matter regurgitated into the stomach from the jejunum, appearing most like pancreatic secretion very slightly stained with bile. The eructations, which were frequent, were also fetid. Thinking all this was due to simple gravitation of the contents of the jejunum through its dependent opening into the stomach, and as there were none of the signs of peritonitis, I had the patient placed in the semi-recumbent position in bed on the third day; at the same time, she was ordered one minim of creasote every hour in half an ounce of emulsion by the mouth. Whether as the result of the change of position, or of the use of creasote, the vomiting now ceased, and did not again return until next morning, when she vomited for the last time. I am inclined to attribute the result to the change of position allowing the intestine to sink a little downwards, so that its opening into the stomach came to lie not exactly over that in the stomach as before. It probably returned the next morning on account of her slipping again into the recumbent position. She was now (third day) given a drachm of brandy every second hour by the mouth, and half an ounce of beef-tea every two hours.

The improvement was now uninterrupted; the rectal temperature was usually below 100°. It is marked as 102° on the fourth day, but this is believed to be an error. Two hours later, it was 99.2°. On this day, she was rather depressed, probably on account of menstruation having set in. The amount of brandy and beef-tea was doubled. On the fifth day, she was given beef-tea by the mouth in ounce-doses every hour, and on the sixth day an ounce of champagne every second hour and a tablespoonful of arrow-root. On the eleventh day, she took some minced chicken, all of which was well digested. On the sixth day, there were two natural stools, accompanied by a good deal of pain. On the thirteenth day, I ordered half a drachm of confection of senna; and on the fourteenth day, she complained of a good deal of pain about the descending colon, which was relieved by a high reaching enema, which brought away a large quantity of feces. Her general appearance began to improve after the first week, and the

sunken look under the eyes to disappear. She also became cheerful, and expressed herself as very grateful for what had been done for her. She seemed so well on the seventeenth day after operation, that she was allowed to sit up in a chair for half an hour, and enjoyed it greatly.

The stitches in the abdominal wall were all removed on the ninth day, and the wound was found to have united by first intention everywhere. It was still supported by broad strips of American rubber plaster in case of straining of any kind.

That the patient has been relieved by this operation, anyone who has watched her can see plainly. That the greater rest secured to the diseased stomach by its new aperture of exit directly into the commencement of the jejunum may lead to a retardation in the development of the growth, there are some grounds for hoping. The food has not now to force itself past the cancerous and ever narrowing pylorus, but can pass easily through the new opening, and so, perhaps, that ulceration of the surface of the growth, which leads to grave complications in many cases, may be staved off. As there is no interference here with the processes of digestion, the secretions of the liver and pancreas mixing as before with the food from the stomach, that slow process of starvation, accompanied by distension of the stomach and frequent vomiting, is prevented, which often renders these cases so painful and distressing to witness; the more so because, in many cases, the process is often very slow.

Finally, I think it is fair to hope that not only does this operation diminish suffering, but it may also materially prolong life by sustaining the vital powers. But, as remarked above, it is too soon to pronounce upon the procedure definitely; we must suspend our judgment for a time. In the meanwhile, one thing may be most decidedly deprecated, namely, undertaking such a measure in utterly desperate cases where the patient is *in extremis* and unfit for any prolonged operation of any kind.

It is now more than a month since the operation, and still the patient continues well. She has suffered a little from constipation on one occasion, but has been relieved by enemata, and, to prevent this trouble recurring, is now taking small doses of laxatives. She sits up every day for some hours, after being confined to bed for more than five months. Her pulse is 78, her temperature normal, her bowels acting well, and altogether she is much improved and cheerful.

CYANOSIS IN NEWLY BORN CHILDREN CAUSED BY ANILINE MARKING INK.

By W. RAYNER, M.R.C.S.,

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EARLY one morning, in July last, the night nurse of the Marylebone Workhouse, on going round the lying-in ward, noticed that one of the infants looked, as she said, "very blue and queer." The mother, with whom the child (a week old) was sleeping, was fast asleep, and the nurse thought the child must have been overlaid; but as the lividity remained, I was sent for.

I found the child apparently just recovering from asphyxia. The lips, gums, and palate were of a wimberry colour, and the whole surface of the body was dusky. The blueness did not, however, decrease, although the child was quite roused and lively. The breathing was quite natural, there was no sickness or diarrhoea, the temperature was normal, and the child had taken the breast well before the mother went to sleep.

On looking round the ward, four other children were found to be affected in the same way, though not to quite so great an extent at first; and during the next three days five more infants were similarly affected. They all took the breast well, and, except for colour, seemed as bright and healthy as any children under a fortnight old usually are. The cases were not all in the same room, nor on the same story; they lasted about a week, and all recovered. The drainage was fully examined, and found to be in good condition. Then the milk supplied to the mother was inspected, it being thought there might be something to affect the children, though the mothers were quite healthy and unaffected, more especially as it was remarked that the milk served out on the previous day had been much yellower than usual. Consequently, inquiries were made at the dairy and farm, but without finding any likely cause, and no other customers had complained of anything of the kind. Next, inquiry was made at Queen Charlotte's Hospital to find out whether they had experienced any like outbreak, but they had not then, or at any time.

Several of my medical neighbours were kind enough to come and see the cases, but could not assign any cause. The epidemic gradu-

ally faded out, and there was nothing more of the kind until last December, when again the same kind of epidemic appeared, and this time seven infants were attacked, the mothers, as before, doing perfectly well, and the children only having the breast.

The midwife was asked to very carefully think over what could be in common between the two attacks and unusual during the interval. She could think of nothing except that she had just got a fresh supply of napkins, and fancied she had a new supply in July also, but was not quite sure of this latter fact. As the napkins were made out of old sheeting, this did not seem to help us much; but, on examining one of the cyanosed infants, a counterpart of the stamp of the workhouse (a $4\frac{1}{2}$ inch oval) with which the napkins were all stamped was observed on its buttocks and vulva; and although the marking-ink was stated not to be an aniline preparation, it was suspected; and, on being analysed by Mr. Greenish, of New Street, was found to be a chloride of aniline.

It came out, on inquiry, that the napkins had not been washed after being newly stamped, as they had generally been, before use; and it was observed that the cyanosis gradually died away after the napkins had been washed, and then none of the dye came off.

A fortnight later, all the affected children had recovered or gone out. A freshly stamped napkin was used for a strong healthy infant, and this became cyanosed in less than twenty-four hours.

CLINICAL MEMORANDA.

METASTATIC RHEUMATISM.

THE following note was handed to me by a professional friend in the East; and, as the combination or complication it portrays is at least rare, I reproduce it, without comment, in the *ipsissima verba* of its author, and will only add that I have not myself seen anything like it in my own practice up to date.

"I return your paper on Metastasis, etc., and will give you, in return for the pleasure the perusal of it has caused me, a bit of my own experience on the point. Whenever I am attacked with rheumatism—an old friend, by the way—I invariably suffer from a gleet; it is, indeed, almost my first symptom, and it is always accompanied by excessive irritability of the bladder. As soon as the gleet begins to subside, my irides become involved, and this sometimes to such an extent as to deprive me for a time of accurate vision. The disease, or whatever else it is, having exhausted itself on these structures, migrates to the joints, whence it retires, by resolution, in the usual way."

WM. CURRAN, L.R.C.P. Edin., etc., Auriol Road, W.

OBSTETRIC MEMORANDA.

CASE OF LABOUR WITH KYPHOTIC PELVIS.

I was called on January 3rd, 1886, to M. E., aged 23, pregnant for the first time, a patient of the Royal Maternity Charity. There was angular curvature involving the vertebræ from the ninth dorsal to the last lumbar, the most prominent part of the spinal column being at the third lumbar spine. There was no appreciable lateral curvature. The patient had been in labour for thirty-six hours, and the midwife had given ergot. The uterus was in a state of tonic contraction, and projected nearly horizontally over the pubes. The head was in the pelvic cavity, forced down so far, that the most advanced point of the scalp was about an inch within the vulva. The caput succedaneum was of such size, that it was impossible to feel the sutures. The external conjugate measured 7 inches; the distance between the iliac crests was $10\frac{1}{2}$ inches, and between the anterior superior iliac spines 9 inches; the measurement between the tubera ischii was 3 inches, the antero-posterior diameter of the outlet 4 inches. The cephalotribe was used, and the child delivered. The blades of the instrument, applied in the sides of the pelvis, were found to have seized the head, the left just behind the left mastoid process, the right just behind the right malar bone. The conjugate and the transverse diameter of the brim were discovered, after delivery, to be each more than 5 inches. The child measured $20\frac{1}{2}$ inches in length, and weighed (exclusive of squeezed-out cerebral matter) $6\frac{1}{2}$ lbs.

The case is published on account of its bearing on the mechanism of labour in the kyphotic pelvis. The head was exactly in the usual first position in the pelvic cavity, so that the peculiar shape of the pelvis did not seem to have modified the manner in which the head entered the pelvis. The mode of passage of the outlet is not illustrated by the case, as the cephalotribe was used.

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