No.	Name.	Sex and Age.	Date.	Condition, etc.	Remarks.
19	J. B.	M., 42	Nov., 1903	Very severe haematemesis and melaena on many occasions. Pain very severe. Has lost 2 st. in weight. Large hard mass at cardiac end of lesser curvature with many enlarged glands. Doubtful whether malignant or not. Posterior gastro-jejunostomy with lateral anastomosis	"Is able to digest his food, which he could not do for fifteen years." Has not been sick or brought up any blood since the operation. Suffers from much distension for two hours after meals. Feels better than he did, but is too weak to do any work. Much troubled by bronchitis.
20	W. R.	M., 50	Nov., 1903	Severe pain after food, relieved by vomiting. Brought up blood once. Slight dilatation of stomach, with old scar at cardiac end of lesser curvature. Posterior gastro-jejunostomy with lateral anastomosis	Is quite a different man since the operation. Enjoys any food without the least pain, and has never been sick.
21	G. B.	M., 43	Nov., 1903	Profuse haematemesis twice. Severe pain after food. Has lost 2 st. Old gastric ulcer, with much induration on lesser curvature. Posterior gastro-jejunostomy with lateral anastomosis	No pain after meals. Never sick. General health very good.
22	E. A.	M., 58	Nov., 1903	History of ulcer of stomach for 9 years. Large mass at pylorus adherent to anterior wall of abdomen. Anterior gastro-jejunostomy with lateral anastomosis	No pain. Never sick. Has put on 1½ st. The mass can no longer be felt.
23	E. B.	F., 24	Nov., 1903	Six years' constant pain after food. No vomiting, melaena, or haematemesis. Hourglass stomach with adhesion to anterior wall. Posterior gastro-jejunostomy with lateral anastomosis	Free from pain if careful about diet. Is much stouter. Has married since.
24	E. H.	F., 28	Nov., 1903	Persistent vomiting after food for six months. Greatly emaciated. Dilated thin-walled stomach with nodular cicatricial pylorus. Same operation	Patient, who was suffering from a peculiar form of osteoarthritis, improved very much for about a year, and then began to fail again, with occasional attacks of pain and vomiting; cause uncertain.

of peptonized beef-tea into the bowel during the course of the operation with much benefit. As regards the position of the opening in the wall of the stomach, in many cases there was no option. It had to be made where it could. But it is very significant that some of the cases in which, owing to the force of circumstances, it had to be made quite at the cardiac end did the best, so far, at any rate, as freedom from pain is concerned. The pain felt in dyspepsia and gastric ulcer is not due to the contact of the food with the lining membrane of the stomach, for this is quite insensitive, nor to the increased acidity of the gastric juice, but to the movement of the stomach during digestion dragging upon the parietal peritoneum, the exquisite sensitiveness of which is still further increased (in cases in which there is an ulcer) by irritation spreading to it from the ulcer along the lymphatics. If pain is to be avoided after gastro-enterostomy, the opening in the stomach must either be at the cardiac end, and very free, so that the pyloric end has no work to do; or if it is placed at the pyloric end, there must be for the same reason free division of the circular muscular fibres in the pre-pyloric portion. In either case adventitious adhesions, the result of past inflammation, must be dissected away, or the stomach will continue to drag through them upon the parietal peritoneum, and the pain will continue.

THE VALUE OF THE VERMIFORM APPENDIX IN THE TREATMENT OF ULCERATIVE AND MEMBRANOUS COLITIS.

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AN opening into the caecum has been advocated in cases of chronic membranous colitis, with a double view. In one of the earliest published instances¹ all the motions were passed through the artificial anus for six weeks, so as to give the colon complete rest; the opening was then successfully closed. The patient, however, died two months later from acute peritonitis, the cause of which was not ascertained, as there was no *post-mortem* examination. In a still earlier case, operated upon in 1894,² the caecal anus was left open for over seven months, the patient recovering. In a third case, which also ended successfully, the opening was retained for a year.

The other object with which the surgeon makes an opening into the caecum is to flush the colon through with saline, antiseptic or astringent solutions. Seeing that the inflammation is usually limited to the colon, this is a thoroughly rational proceeding, especially as there is marked decomposition and often suppuration. The drawbacks of a caecal anus are well known. If a colotomy opening in the sigmoid flexure is regarded by some patients as an intolerable nuisance, how much worse is an artificial anus in the right groin! The more

fluid contents of the caecum are constantly being evacuated and are likely to cause much irritation of the skin. The opening into the intestine may be difficult to close when the time comes for this to be done.

If the surgeon employs the vermiform appendix for irrigation purposes, he will find that it possesses the following advantages. In the first place, all leakage of caecal contents can be avoided. Secondly, by means of a rubber catheter inserted and retained in the appendix, the washing out of the colon can be done in an efficient and cleanly way. Finally, it is quite easy by resection of the appendix to close the fistula when the treatment has accomplished its object.

It is difficult to decide who originated the method. Mr. Stanmore Bishop, in reporting a successful case,³ attributes it to Weir of New York. My colleague, Mr. H. L. Barnard, who suggested it to me, believed that Mr. W. G. Spencer was the originator of the modification, which is undoubtedly an improvement on the old method of opening the caecum.

The following case may be briefly narrated in the hope that others will test the value of the proceeding.

A man, aged 36, was admitted into the London Hospital with the diagnosis of malignant disease of the colon.

History.

For a long time he had complained of constipation, which he attributed to his sedentary occupation. During the last twelve months he had lost weight to the extent of several pounds, and had noticed that excessive mucus and later blood had passed with his motions. A sudden desire for an evacuation would come on, which had to be immediately complied with; from time to time there was tenesmus. During the last six months blood had been present with each motion. There was a tendency to haemorrhoids, the rectum was ballooned. In the left iliac fossa I detected nodular thickening along the course of the sigmoid flexure. Nothing abnormal could be felt in the rest of the abdomen. The motions were always fluid and offensive, and contained blood and mucus, with copious shreds of membrane, which were shown by microscopic examination to consist of cellular and epithelial structures.

Operation.

In order to exclude the presence of a malignant growth, I made a median exploratory incision. A small opening was made through the muscles in the right groin; through it the vermiform appendix (which was normal and free from adhesions) was brought on to the surface. It was here fixed at its base by fine silk sutures; it was opened at its distal end and a rubber catheter inserted into its lumen. The other abdominal wound was then closed layer by layer in the usual way.

Treatment by Astringent Irrigation.

The operation was performed on November 11th, 1904, and four days later irrigation was commenced through the tube. Warm boracic solution was at first employed, then nitrate of silver lotion of a strength varying from a quarter to two grains to the ounce. The dresser to the case, Mr. Burne Jones, carried out this treatment daily until December 24th, when it was thought it would be safe to discontinue it. At first blood had been freely present, but this gradually disappeared. It will be understood that a large quantity of the astringent solution was used on each occasion; it came away per rectum about five minutes after starting the irrigation.

On December 28th, that is, seven weeks after the first operation, I

enlarged the small wound in the right groin, drew out the caecum, and excised the whole appendix. A few kangaroo tendon sutures were inserted in the small muscular aperture. The patient was kept in hospital for some time under observation. He gained over a stone in weight, had entirely lost the symptom of frequent motions with tenesmus, and the membrane and blood had ceased to be passed. He has reported himself since as being well; there has once or twice been a streak of blood with the motions, which are now well formed.

I should have noted that examination with the sigmoidoscope showed a congested and relaxed mucous membrane, but it was unsatisfactory owing to the dark blood and semi-purulent stuff coming down from the colon.

It may be suggested that, looking to the possibility of relapse in the future, it was unwise to remove the appendix, as it might be required for irrigation purposes again. The case was a typical and fairly severe one of membranous and ulcerative colitis, and the short duration of the treatment required—only seven weeks—contrasts favourably with that recorded in many of the cases in which a caecal opening was employed.

As regards drugs, quinine, salol, and occasional doses of opium were given to prevent relapse, but the cure was entirely due to the irrigation with nitrate of silver solution. It is admitted by physicians that no medicinal treatment has any marked control over the progress of colitis. It is probable that direct treatment through the vermiform appendix will come to be resorted to not only in chronic cases, but in subacute ones of any severity, as well as in dysentery. It is obviously more logical to irrigate the large intestine from the caecum onwards than to trust to astringent enemata.

Mr. C. B. Lockwood, in an interesting paper on colitis and appendicitis,⁴ states his belief that muco-membranous colitis may cause inflammation of the appendix. He narrates one case which proved fatal, and in which exactly the same ulcerative changes were found in both colon and appendix. This is readily understood, but the removal of the latter organ as a means of treating the colitis is hardly logical. In fact, Mr. Lockwood states that in one case in which this course was adopted, he doubted "whether the colitis was really much better." When an extensive tract of skin or mucous membrane is inflamed, the excision of a small portion cannot be expected to accomplish much. On the other hand, it is of interest to have found a real use for that much abused organ, the vermiform appendix, and to have rendered both safer and more certain the treatment of chronic colitis.

REFERENCES.

- ¹ Dr. W. Hale White and Mr. C. H. Golding-Bird, *Clin. Soc. Trans.*, 1895, p. 45. ² Dr. Simpson and Mr. Keith, *Med. Press and Circular*, July 29th, 1896. ³ BRITISH MEDICAL JOURNAL, March 18th, 1905. ⁴ *Ibid.*, March 4th, 1905.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

RECOVERY FROM MORPHINE POISONING AFTER SUBCUTANEOUS INJECTION OF ATROPINE.

At 9.30 a.m. on February 23rd, 1891, I was hastily summoned to see a lady, aged 45. On my arrival I found her in bed in a deep state of coma, face suffused, and all reflexes absent. The pupils were equally contracted to the size of a small pin's head, and she could not be roused. I gave her $\frac{1}{16}$ gr. apomorphine by hypodermic injection without any result. Continuous efforts were made to rouse her by slapping and shaking. Her condition pointed to an overdose of opium, but how brought about was not ascertained till she had recovered. Her condition was desperate, and I decided to use atropine subcutaneously. 10.10 a.m. Respirations 10, atropine $\frac{1}{16}$ gr. 10.20. Pulse 128, very feeble, respirations 10, atropine $\frac{1}{16}$ gr. repeated. 10.40. Respirations 6, atropine $\frac{1}{16}$ gr. One pint black coffee per rectum; faradization of phrenic nerve. 10.50. Respirations 11; face more suffused; slight reflex of eyelids. After the third dose of atropine the pupils rapidly dilated. She was still in a desperate state, with cyanosed face and mucous râles in the chest, but I had some hope of her recovery. 11.25. Pulse 112, feeble; mustard bath to feet for twenty-five minutes, artificial respiration for half an hour. 11.45. Respirations 18, nitrite of amyl 3 minims by inhalation. 11.50. Ether $\frac{3}{4}$ j hypodermically, no reflex action anywhere, increased râles over chest. 12.25 p.m. 2 oz. brandy per rectum, pulse very feeble, lachrymal secretion noticed for the first time. On slapping

the chin she screwed up her face and opened the eyelids once, no response to shouting close to the ear; brandy rectal injection repeated. (The stomach had early been washed out with warm water and glycerine of tannin and gallic acid.)

The case to those who saw it seemed hopeless, but I could not despair. Assuming she had taken morphine she had been given a dose of atropine sufficient to kill her if she had not taken morphine, and my thought at the moment was that we could only let the two drugs fight it out. 1.35 to 1.45. Still mucous râles in chest; continued slapping her chin and trying to rouse her. 1.55. Pulse 136 stronger, respirations 22 shallow, temperature 98.4°. 2.25. Pulse 136, respirations 24 deeper, râles in chest diminished. (If not for râles and cyanosed face she looked like one in natural sleep.) I became much more hopeful of her recovery. (Early in the case her chin dropped and had to be held up for a long time, or her respiration became impeded.)

In the course of half an hour there was evident improvement. The pupils had begun to contract, and before I left her at 4 p.m. she had recovered consciousness and spoke to me.

Next day she told me that she had injected 40 minims of morphine, equal to gr. iv, at or before midnight, "because she wanted to die." Atropine is recognized as the physiological antidote to morphine, and Bartholow recommends gr. $\frac{1}{16}$ of atropine for each grain of morphine taken. In this case $\frac{3}{16}$ was administered, which was $\frac{1}{16}$ more than was required.

The danger from morphine poisoning ended with the day, but her mental condition gave rise to much anxiety, and it was thought that she would have to be sent to an asylum. This was happily avoided. The patient fully recovered, and is still alive and well. I need not go into her previous personal and family history, which was somewhat distressing. I ascertained that on more than one occasion she had threatened to commit suicide, but no notice was taken of these threats. She was near the climacteric, and this, with her troubles, evidently brought on an attack of melancholia.

My chief object in reporting this case is to lay stress upon the value of atropine as the physiological antidote to morphine. I think this is not sufficiently recognized, especially by house-surgeons in hospitals. In my opinion lives might be saved by prompt treatment, which are now lost.

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A CASE OF FRACTURED BASE OF SKULL.

THE following case is of interest on account of the severity of the injury, from which the patient recovered. G. W., aged 34 years, height 5 ft. 9 in., weight 15 st., a labouring foreman, was thrown head foremost down a shaft 22 ft. deep owing to the premature explosion of a blasting charge.

On examination he was found to be unconscious; there was profuse haemorrhage from the nose and from the right ear, and vomiting of blood. The scalp was extensively detached from the vertex and forehead, and fell down over the eyes and nose; there were punctured wounds of both sclerotics, and slight extravasation of blood under the right pupil, which was also irregular. The right hand was extensively lacerated, the first phalangeal joint being fractured, while punctured wounds were found on legs, face, and body, containing powder and mud.

His wounds were cleaned, stitched, and dressed with iodoform gauze, atropine dropped into the right eye, and an icebag applied to the head. The haemorrhage oozed from the ear until 2.15 p.m., and continued from the nose until 11 a.m. next day; vomiting of blood continued at intervals until next morning, when the patient became semi-conscious. The right eye was then found dilated but irregular, and on ophthalmoscopic examination haemorrhage in the vitreous was noted there; this eye was completely blind and inco-ordinate in movement. The scalp wounds healed by first intention; the temperature never went higher than 101°, and became normal on the sixth day. The patient, however, remained only semi-conscious until the morning of the eighth day, and then became markedly restless.

On the sixteenth day he was able to discern the shadow of a hand passing before the right eye. The inco-ordination of movement lessened after the fourth day, and was normal on the ninth day, when the icebag was discontinued. From this date the man steadily improved, and four weeks after the accident he was allowed to get up for the first time. He felt giddy, and could not be made to believe that he was not falling