

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—EDWARD H. BENNETT, M.D., F.R.C.S.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF SURGERY.

President—R. L. SWAN, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

Friday, May 12, 1899.

The PRESIDENT in the Chair.

Gastro-Enterostomy.

MR. C. B. BALL read a paper on this subject. The form of operation recommended was the posterior route through an opening made in the transverse meso-colon, as advocated by von Hacker and Courvoisier. The first loop of jejunum arising from the duodenum was selected, and divided completely across, as recommended by Wolfier, the incision being continued for about an inch and a half into the mesentery; the mesenteric wound was topsewn with fine catgut, and the distal end implanted into the stomach by means of the author's pattern of decalcified bone ring for intestinal anastomosis, the proximal end having previously been implanted laterally into the jejunum with a second ring at a point about three inches below the portion joined to the stomach. The advantages of an ample and direct lead from the stomach to the intestine, together with the entrance of bile and other duodenal contents into the bowel at a point some inches away from the stomach, in the opinion of the author more than counterbalanced the disadvantage of a double anastomosis, and the treatment of a considerable mesenteric wound. Two cases were related. In the first the stricture of the pylorus was manifestly malignant, with considerable involvement of the omenta and glands. The patient recovered well, and two months after operation had increased two stone in weight; he subsequently developed secondary cancer of the liver, of which he died six months after operation. In the second case the tumour was more extensive, and appeared to be malignant.

The operation was carried out in the same way, except that the duodenal end of the jejunum was attached to the stomach, and the distal end laterally implanted into the proximal. At the time of writing, eight months after operation, the patient was in absolutely good health in every respect, so that it is possible that the diagnosis of malignancy was mistaken.

MR. P. J. FAGAN remarked on the rapidity of Murphy's button over simple suture.

MR. M'ARDLE took exception to the term gastro-enterostomy, as a gastro-enterostomy lower down was not surgery at all, and he thought that they should confine themselves to the term gastro-jejunostomy. Herniation might occur in anterior gastro-jejunostomy, and, therefore, the operation should be exterminated. In a case of anterior gastro-jejunostomy performed by himself persistent churning up of bile in the stomach occurred, and every morning the patient vomited three or four ounces of acid bile, which was very distressing. He liked the operation of posterior gastro-jejunostomy, which was simple. From 1890 till the present he had done eight operations, all for benign stricture, successfully, and all the patients were still alive. He was against continuous suture as done by Lauenstein, and believed that a high mortality attended the application of any method of continuous suture in posterior gastro-jejunostomy. He was glad to see that Mr. Ball used the purse-string suture advocated by Murphy in lateral junction of the bowel. He disliked a bobbin such as Mr. Ball's, as it left uncontrolled a piece of inverted bowel wall, and was liable to cause stricture. About two per cent. of Murphy's button on the market were real, the rest were made for tradesmen's profits.

MR. E. H. TAYLOR had seen Mr. Ball perform his operation, and he was greatly impressed with the ease with which it was carried out. He believed that the bone rings were preferable to simple suture. He did not approve of Murphy's button, as the chances of its becoming impacted were very great, and also the difficulty of the button, of the size he would like to use, passing the ileo-cæcal valve, were very great. He held that any operation which fixes the intestine either behind the posterior wall of the stomach, or the anterior wall where the loop is not divided, is not a good operation.

DR. A. R. PARSONS had recently had three patients on whom the operation was performed. The first was a woman between fifty and sixty years of age, who had been operated on successfully for sub-phrenic abscess, and three months later came to hospital with

extreme dilatation of the stomach, with persistent vomiting and emaciation. He felt a very large tumour in the right hypochondriac region, and diagnosticated it as non-malignant. Mr. Croly performed the operation on her by Murphy's button. As far as the operation went nothing could have been more successful. Death followed in two days. *Post-mortem* showed nothing to account for death. The second case was that of a woman between thirty and forty years of age. She suffered from persistent vomiting, and became emaciated very rapidly. A tumour was palpated in the neighbourhood of the pylorus. Examination of the gastric contents showed it to be malignant obstruction of the pylorus. Mr. Johnston performed a posterior gastro-enterostomy. Patient remained perfectly well for three months afterwards, but the disease spreading, vomiting again occurred, and death followed six months after the operation. The third case was that of a man thirty years old. Examination of the gastric contents proved him to be suffering from malignant stricture of the pylorus. Mr. Johnston performed a posterior gastro-enterostomy, and recovery was good. He thought that anterior gastro-enterostomy was a bad operation. He was greatly struck by the extreme simplicity by which the anastomosis could be done by Mr. Ball's bobbin. He thought it might be better to plug the bobbin with some kind of a sterilised cork, instead of plugging with gauze, to insure prevention of extravasation during operation. Had an examination of the gastric contents been made in Mr. Ball's cases?

MR. CROLY thought that it was more the method of operating than the button that was of importance.

MR. G. J. JOHNSTON said that he had used Mr. Ball's bobbin in both cases. He believed in the posterior operation, and not in the anterior. He thought that the direction of the currents of the contents of the stomach and intestine should be the same in both. In his second operation, he used lateral sutures as an addition to prevent kinking.

MR. BALL, in reply to Dr. Parsons, said that free HCl was absent in the first case; he forgot whether it was absent in the second case. His experience of anterior gastro-enterostomy had been very unsatisfactory. He did not understand how Mr. M'Ardle had done a gastro-jejunostomy through the gastro-colic omentum. Mr. M'Ardle's record of eight consecutive cases for eight years was very remarkable. He had not altered the shape of his button, and the purse-string suture was first used by Mr. Greig Smith, and was the only form applicable to a lateral anastomosis. He believed that Murphy's button would soon be obsolete. Dr.

Parsons' suggestion about a cork in the button was very good, but he had always found gauze to answer the purpose. In the second case on which he operated, on introducing the fingers into the stomach, the pyloric orifice represented a virgin os uteri, so that scarcely any contents of the stomach were finding their way into the duodenum at the time of the operation. He thought that regurgitation of the duodenal contents into the stomach was likely to occur in posterior gastro-enterostomy so long as a loop of intestine was simply lateralised to the stomach.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—D. J. COFFEY, M.B.

Sectional Secretary—A. BIRMINGHAM, M.D.

Friday, June 2, 1899.

The PRESIDENT in the Chair.

Distribution of the Glands in the Human Œsophagus.

THE PRESIDENT (PROFESSOR COFFEY) said that the œsophagus, after fixation and hardening, was divided into twelve segments of equal length, and then sectioned. The glands appeared isolated; they were large enough to be distinctly visible to the naked eye, and lay imbedded in a fairly close-textured fibrous submucosa. Each one was formed of a close cluster of alveoli, lying a short distance below a well-defined continuous and rather broad band of muscularis mucosæ. Sometimes a detached strip of this muscular layer extended below the gland. In the transverse sections, of which a complete set had not yet been made, the glands occurred in interrupted vertical rows. The whole arrangement contrasted remarkably with the thick almost unbroken stratum of glands which occupied the whole submucosa in the dog. The number of glands in any one vertical section through the whole length of the tube was about thirteen as a rule. They were placed in the successive segments, in the following order from above down—three in the upper four segments, four in the next two, the succeeding two segments were devoid of glands, then followed four glands, and lastly, two in the remaining segments. The examination of the junction of the tube with the stomach was as yet unfinished. The upper half of the mucous membrane was therefore better supplied with glands than

the lower half. Other features of the histological structure investigated showed that the unstriped muscle in the circular coat extended almost to the upper extremity of the tube.

The Histology of the Human Vermiform Appendix.

THE PRESIDENT said that the general arrangement and structure of the layers of the tube corresponds with that of the large intestine. The muscular layers are, however, pretty thick for a tube of such dimensions, the external or longitudinal being complete, and containing almost as many rows of cells as the circular layer. Most interest attaches to the submucous coat. It is almost wholly occupied by lymphoid nodules arranged in a thick ring. Each one is conical in form, base outwards, and surrounded by a capsule lined with endothelial cells, which thus constitute a lymph sinus drained by the lymphatics. The solitary follicles, which in the intestine lie mainly in the mucosa, are here crushed out into the submucosa altogether. This determines a condensation of the proper areolar constituents of this layer into a band of dense fibrous tissue, lying outside the nodules and separating them from the muscular wall. One or two thick bands, however, remain in the radial direction, and run inwards from the muscular to the mucous coat. The lymphoid nodules vary much in size, and a few large ones appear to be projected inwards from the ring, invading the mucous coat and reaching to the epithelial surface. These differ in shape from the submucous nodules, being pyriform, with the broad end inwards. They might be described as a sort of second ring pushed inwards from the crowded outer set. The want of uniformity in the size of the nodules is apparently associated with the irregularity of the lumen of the tube. The glands of the mucous coat are of the normal character and are fairly numerous. The muscularis mucosæ is thin and badly defined, it is broken into strips and lies immediately internal to the apices of the conical lymphoid nodules.

PROFESSOR PURSER said that the finding of unstriped muscular tissue so high up in the œsophagus was very interesting, and a new fact to him. He had often in examining pathological specimens been struck with the absence of glands in the œsophagus, but that may have been owing to the pathological condition. The distribution of lymphoid tissue in the vermiform appendix was very interesting; in the rabbit it was the rule that two or three layers of adenoid tissue were present lying over each other.

PROFESSOR BIRMINGHAM said that a striking picture of the

structure of the appendix was given in Testut's Anatomy, but it represented the muscularis mucosæ as lying outside the lymphoid structures. Evidently the true muscularis mucosæ, which is very faint, was overlooked.

The Form and Position of the Thoracic and Abdominal Organs in the Lemur.

DR. C. J. PATTEN read a paper on this subject. The communication was illustrated with lantern slides, and dealt more especially with the relations of the viscera to the vertebral column in the lemur as compared with some other animals. The value of the method of preserving and hardening the viscera with formalin was indicated, and the form which most of the solid organs assumed was brought out.

THE PRESIDENT remarked that the methods of classifying vertebrate types came to little more than dentition, and some few features about bones, with most meagre facts about viscera. Regarding lemurs, which are so doubtful in position, it was very useful to show exactly the relations of their organs, and Dr. Patten's work was very carefully done in this respect.

PROFESSOR D. J. CUNNINGHAM said that Dr. Patten's work was most carefully done. It was another evidence of the value of formalin. It was very unsafe to found any classification on one or two characters. The animal must be investigated from top to toe, and recently, even the muscles which had been thrown into disregard for a long time, are being utilised for this purpose. He was doubtful if the study of formalin forms would help much in this particular direction, but he thought that the work would probably help them to get some idea of the forces which were at work in determining the form of solid organs. This might be done by the study of the comparative anatomy, but still more by the study of the fœtus. Some organs grew out in the direction of least resistance, and their shape was thus determined. Other organs, such as the liver, offered more difficulty in the way of coming to a conclusion.

PROFESSOR FRASER did not wholly agree with Professor Cunningham's remarks about the manner in which organs were shaped. Some organs had plenty of room at their disposal, but yet took a very definite shape, and he could not see how mechanical causes came into play in every case.

Serial Sections of the Adult Human Body made without Freezing.

PROFESSOR FRASER exhibited serial sections of the entire head

and neck, several from the thoracic region, and the entire lower limb, from a subject which he had cut in the transverse vertical direction, and serially at intervals of about one inch, from the crown of the head to the soles of the feet.

The subject had been injected from the femoral artery with a modified formalin solution under a pressure of about eight feet; it had then remained exposed to the air without covering in the preparation room, when it was removed to the dissecting room, and cut serially at the intervals stated above with an ordinary amputating knife, and a small saw without a back, the latter being applied to the bone wherever that became necessary.

The sections were perfect, both as regards the hardening and the colour of the various tissues. Care had to be taken when cutting in the abdominal region not to allow the coils of the small intestine free in the particular section to fall out; they had to be secured by a stitch to neighbouring fixed coils, or to the adjacent abdominal wall. The hardened blood, which was always found in the veins, in the heart, and in certain of the arteries, in subjects prepared as above, was removed under the water tap, and left the vessels standing out in bold relief in the various sections.

These serial sections could be used with great freedom. They could be handed round the class, and examined by each member; they could be left exposed to the air for days; they could be left under water also for days, or they could be finally mounted in a preservative fluid.

It was desirable to have an alternative method of making useful and instructive serial sections of the adult to that which had hitherto been employed, which was the ordinary mixtures of ice and salt, or snow and salt, in the absence of proper refrigerating chambers, which were not, as a rule, attached to anatomical departments in Great Britain or Ireland. The meeting could say whether the sections now exhibited would not bear favourable comparison with any that had ever been made by the method of freezing.

The PRESIDENT said that the sections were of great value for teaching purposes, and showed the natural appearances very well.

PROFESSOR BIRMINGHAM complimented Professor Fraser on the beauty and usefulness of the specimens.

Formalin Specimen of the Abdomen.

PROFESSOR BIRMINGHAM exhibited a formalin specimen of the abdomen, prepared to show the lines of reflection of the peritoneum.

The Section then adjourned.