when the patient left the hospital on June 3rd she was instructed to keep on gradually diminishing the dose to the vanishing point.

On July 30th she reported "I am taking 10 drops of belladonna at night only, but I am not taking any opening medicine as the bowels act twice a day." Later she wrote that the bowels were acting perfectly well without either belladonna or the enema. On October 11th she wrote, "Sometimes I get the old pain down the left side again; last week it was rather bad. The bowels are all right, but I have had to use the glycerine enema four or five times since I wrote to you last."

Two points in Dr. Hawkins's summary of the conclusions to be drawn from his observations bear directly on the present case, namely:

1. "Whether the pain is short and sharp, or long and wearing, it is usually situated in the right or left iliac fossa or the immediate neighbourhood."
2. "In both these situations it may lead to the idea that more serious disease is present, as affecting chiefly the appendix, and to a less extent the sigmoid flexure."

In the case here reported the worst pain was in the left fossa, and so the question of appendicitis did not arise, but obstruction by a band or intussusception seemed quite possible. Looking at some of the symptoms with the knowledge of what the condition actually was they do not seem very serious. For instance, there was no loss of weight, though the illness had lasted a considerable time, vomiting was a rare occurrence, fever was absent, appetite was good, tongue clean and moist, and the abdomen practically not at all distended; but when it is remembered that constipation was absolute except when the enema was used, and that even flatus failed to pass, and that latterly pain was constantly present, exploration was manifestly the proper course to adopt.

That mere spasmodic contraction of a part of the bowel can cause these symptoms, shows that a new factor has to enter into our calculations when diagnosing abdominal cases; and if this condition can occur in a strong and healthy young woman in easy circumstances, with no worries and not at all neurotic in the ordinary acceptance of the term, the positive diagnosis of "enterospasm" will always be a difficult matter.

One of the symptoms noted—namely, the extreme strychnine-like irritability of the abdominal muscles and the tendency to spasms of pain either in the muscles or the underlying viscera—seems worthy of special attention. It may perhaps be found, with wider experience, that this symptom is pathognomonic; and, if so, it will be of great value in differentiating enterospasm from other abdominal conditions which it so closely simulates.

SIMPLE COLONIC ADHESIONS A CAUSE OF INTERMITTENT ATTACKS OF ABDOMINAL PAINS.

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A CASE coming recently under my observation, in which the symptoms appeared to be solely due to some simple adhesions hampering the proper action of the colon, recalled another similar case which I operated upon about four years ago, and the two seemed to me sufficiently interesting to place upon record. In neither case was a correct diagnosis made, nor perhaps could have been made. Indeed, in the one the symptoms seemed typically to suggest chronic appendicitis; in the other—mostly from the age of the patient—the possible existence of early cancer of the large bowel. Both patients were comparatively healthy, and in neither case could any antecedent history satisfactorily ascribe a cause for the condition found at operation.

CASE I.

Miss H., aged 43, was brought to see me by Dr. Bradford of Carlisle. About thirteen years ago she was seized with pain in the right iliac fossa accompanied with vomiting. Since that time she has had ten or eleven similar attacks. The vomiting would pass off in a few days, but the pain and discomfort in the iliac fossa would linger, sometimes for weeks. They were unaccompanied with any increase of temperature, and there was either very slight or practically no tenderness of the part. She had always been constipated, requiring to take aperients, and this condition was more marked at the time of her painful attacks. With the exception of very slight pain on deep pressure there were no physical

signs to be elicited by digital examination. The genito-urinary system appeared healthy. She complained sometimes when walking or in moving her right leg that pain was felt in the same region.

Operation.—The abdomen was opened as for an appendix operation. The appendix, however, appeared perfectly healthy as did also the uterus and adnexa. On further searching for a cause some adhesions were encountered about the middle of the ascending colon which doubled the bowel on itself (see Fig. 1) and so attached it deeply that it could not be brought

Fig. 1.—a, Ascending colon; b, caecum; c, adhesions binding together two limbs of the colon.

out like the caecum below and the bowel above. On examining more closely the adhesion a small knotty structure existed in the middle of those which bound the limbs of the colon together. The colon itself in the neighbourhood of the adhesions presented no indication of constriction, of ulcer, or of growth, the passage from below upwards appearing perfectly free. The adhesions were divided and an attempt made to straighten out the gut, but it was soon seen that this was prevented by the anterior longitudinal band of muscular fibres which stood up like a tense cord. As there seemed some difficulty about liberating the bowel from its deeper attachments it was left undisturbed and short-circuiting performed by creating a fistula bimuscosa between the two limbs of the colon, thus establishing a straight tract between the caecum and the upper portion of the ascending colon. This was effected by suturing.

Subsequent microscopic examination of the "knot" showed it to consist merely of what appeared to be a small collection of mesenteric fat.

The special points of interest in this case were two: The contracted condition of the longitudinal muscular band which prevented the bowel straightening out after division of the adhesions, and the attachment of the bowel to the psoas muscle. This latter relationship would seem to explain the cause of the pain when the leg was moved, for every contraction of the muscle would exercise a dragging effect upon the bowel, and so effect a result similar to that evoked by the normal peristaltic movement. The contracted condition of the anterior longitudinal muscle band seemed to suggest that the mischief was of some long standing. For just as one is familiar with the shortening which muscles undergo about chronically contracted joints, so this bent condition of the bowel, by probably old adhesions, had caused the band to become shortened. As an alternative to the operation performed was the transverse division of this muscle, and the execution of coloplasty; but, as the separation of the deep attachments seemed difficult, I thought it advisable to leave the parts in their altered position, and establish a straight course of the canal by a bimucous fistula, colo-colostomy.

CASE II.

Miss A., aged 54, I was asked to see by Dr. Alice MacLaren. Her history was that she had suffered from constipation all her life, but more so recently, and had been obliged to take aperients to obtain a movement. Beyond this, her only symptom was more or less pain felt in the course of the descending colon when the bowels were confined. Relief usually followed an evacuation. There was a history of an old injury to the left side, but further than this there was nothing to account for her illness. No history of peritonitis; no tuberculous diathesis. The abdomen was opened in the course of the descending colon. The omentum was discovered attached for a distance of 4 in. along the descending colon, forming a broad band, which held the transverse colon down so that a similar distance of 4 in. existed between these two segments of the bowel (see Fig. 2). This broad membranous attachment was severed and the two portions of the colon freed. The bowel otherwise seemed quite healthy, and no other adhesions were detected in any other part of the abdominal cavity. The patient made an uninterrupted recovery, and now—about four years since her operation—has remained quite well and free from her old pain.

Fig. 2.—a, Transverse colon; b, descending colon; c, omentum uniting the two portions of the colon.

The special point of interest in this case seems to centre upon the membranous expansion of the great omentum, which was attached to the descending colon. The history of an early injury was almost too indefinite to count as a cause. The extremely regular line of attachment seemed almost to suggest a congenital condition.

Considering the symptoms of these two cases together, it seems as if the pain from which each suffered owed its origin more particularly to the dragging effects produced by the adhesions, which interfered with normal peristaltic action. In both the calibre of the canal was undiminished, so that there was no real cause for obstruction; but, supposing the solid contents of the colon were to some extent inhibited in their progress, the increased peristaltic action thereby evoked, with the consequent additional dragging of the adhesions, would still be sufficient to explain the pain.

SOME OPERATIONS FOR REMOVAL OF MALIGNANT GROWTHS FROM THE NASO-PHARYNX.*

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THE surgeon who opens an exhaustive work on operative surgery, and refers to the section on the naso-pharynx and pharynx, becomes lost in a maze of complicated operations, and finds it difficult to select a procedure for any particular case. Many of the operations described are never performed, but are copied from book to book. Other operations for the removal of malignant growths of the naso-pharynx are attended with the great disadvantage that the whole, or the important alveolar portion of the superior maxilla is necessarily sacrificed, although in many cases the operation should really in the first stage be an exploratory one. For it must often happen that a malignant disease of the naso-pharynx when fully exposed proves to be irremovable. It would be tedious, and of little profit, to mention and enter into a detailed criticism of the various procedures indicated. I will therefore at once describe certain operations which were worked out by myself, and which I believe present features of novelty.

On two occasions I have carried out a method of osteoplastic resection of the upper jaw which completely preserves the integrity of the jaw, and at the same time admits of the fullest exposure of the naso-pharynx and upper and back part of the nose. A ligature is placed on the external carotid artery and laryngotomy is performed. An incision resembling Velpeau's is made (Fig. 1, *a*), and

Fig. 1.—*a*, Writer's operation; *b*, Langenbeck's operation.

Fig. 2.—*a*, Writer's operation; *b*, Langenbeck's operation.

extends from the angle of the mouth to the lower margin of the malar bone at a point corresponding to the anterior edge of the masseter. The parotid duct is then sought for, traced forward, and separated at its entrance into the mouth by a circular incision through the mucous membrane around its orifice, and is then turned back. The malar bone is divided by introducing a Gigli saw through the spheno-maxillary fissure. (See Fig. 2, *a*.) This is done by passing an aneurysm needle loaded with silk through the upper angle of the incision, above the orbital margin, and then

downwards through the fissure so that it protrudes below the malar bone. The silk is caught, and by its means the saw is drawn through the fissure. The muco-periosteum of the hard palate having been divided in the median line the hard palate and alveolus are also severed by a Gigli saw, which has been drawn through from the mouth by an aneurysm needle passed along the inferior meatus and through a puncture at the junction of the hard and soft palates. The soft palate is severed from the hard, from the middle line as far as the posterior margin of the alveolus. A broad and blunt chisel is then driven horizontally between the tuberosity of the upper jaw and the pterygoid processes. By pressing the handle backwards the upper jaw is levered out of its bed and turned upwards and forwards. As the skin incision is only carried as high as the lower level of the malar bone, the fibres of the facial nerve going to the orbicularis oculi are not divided. After removal of the growth the maxilla is replaced and the severed edges of the malar bone united by a wire suture. A piece of thin silver wire may also be passed round the incisor teeth on each side of the incision through the alveolar process anteriorly. The incision between the hard and soft palates and the two halves of muco-periosteum of the hard palate are sutured. The end of the parotid duct is thrust into the mouth and secured in position by a point of catgut suture. Finally the skin incision is closed.

I performed this operation first in October, 1904, on a gentleman aged 48, who was sent to me by Mr. Mark Hovell. During the four previous years he had had polypi removed from the left nostril. There was a growth springing from the roof of the naso-pharynx and involving the posterior end of the vomer; the left nostril was blocked with growth, inspissated pus and one small polypus. A portion of the growth from the naso-pharynx, removed for microscopic examination, proved to be a small round-celled or lympho-sarcoma. After preliminary ligature of the external carotid artery and laryngotomy, the muco-periosteum of the upper jaw was incised along the inner sides of the teeth on the left side and reflected towards the middle line, as it seemed not improbable that the upper jaw would have to be sacrificed. The steps of the operation were then carried out as above detailed. The growth was found to involve the roof of the naso-pharynx, the base of the vomer and the posterior part of the floor of the left inferior meatus. At the end of the operation the patient was suffering profoundly from shock, and in spite of intravenous injection of saline and other remedies usually employed, died about three hours after. The next opportunity for performing this operation did not occur until October of last year and was completely successful.

Edward W., aged 15, was admitted to hospital in January, 1906, complaining of blockage of the left nostril and purulent discharge from it of four months' duration. The naso-pharynx was filled with a firm adherent mass, which projected into the back of the left inferior meatus, so that it could be seen from the anterior meatus. The soft palate was depressed, the nose broadened, and the cheek swollen. I proposed to excise the left maxilla and remove the growth. On February 9th I proceeded to tie the left external carotid, but found so many enlarged glands that I thought the case not sufficiently hopeful to warrant me in persevering. I, however, put a ligature on the external carotid with a view of checking the growth of the tumour, and removed the glands.

The patient was readmitted to hospital on September 26th for severe haemorrhage from the nose, which threatened his life. The growth had so much diminished in size that I thought it would be justifiable to attempt its removal. A preliminary laryngotomy was performed. Then the upper jaw was turned forward in the manner above described. The tumour was found to spring from the back part of the naso-pharynx opposite the atlas and axis, and from the basi-sphenoid. Its base was firmly adherent, and it projected forward as a tongue-shaped mass into the left inferior meatus. A rounded mass an inch in diameter occupied the sphenoidal sinus. The tuberosity of the superior maxilla was also invaded. The growth was removed freely without haemorrhage, and the thermo-cautery was applied to the seat of origin. The tuberosity of the superior maxilla was cut away with bone forceps. The upper jaw was then replaced. The later stages of the operation had to be hurried, as the patient was suffering extremely from shock. He made a good recovery, and the jaw is now in good position and quite firmly fixed. (Patient shown.) The power of closing the eye is not impaired, there is no diplopia, and no parotid fistula. I examined his naso-pharynx at the end of January, and found no recurrence. Microscopically the growth was a fibro-sarcoma.

* Read at the Medical Society, February 25th, 1907.