out he was not under medical care here, nor did he complain of illness at any time. We trust the above information will suit your purpose, and are, yours faithfully, TANCRED, ARROL AND CO.
—Dr. Byrom Bramwell."

Copy of Letter from Dr. James Hunter.

"The Priory, Queensferry, December 29th, 1887. Dear Dr. Bramwell,—J. G. was a member of the Forth Bridge Workmen's Club, in virtue of which he was entitled to medical advice at any time. Up to the date on which he met with the accident to his eye I had not been asked to see him professionally. Indeed, I am not aware that he was on any occasion absent from his duties at the bridge.—Yours sincerely, JAMES HUNTER."

The details of another case of aneurysm (which is reported in the *Edinburgh Medical Journal* for April, 1888) were also given, in which the patient was able to work for a period of eight years with an aneurysm projecting through the front wall of the thorax.

CASE OF SERIOUS HÆMORRHAGE FROM THE CAVITY OF THE TYMPANUM IN AN INFANT (OTITIS MEDIA HÆMORRHAGICA).

By THOMAS BARR, M.D.,

Surgeon to the Glasgow Ear Hospital; Lecturer on Aural Surgery, Anderson's College, etc.

BLEEDING from the ear may occur in various affections of that organ. Thus it is not uncommon in purulent diseases associated with polypi, granulation tissue, or caries; in these conditions, however, it is rarely more than sufficient to tinge the discharge. A moderate escape of blood is also not unusual in otitis externa and in myringitis, from the rupture of hæmorrhagic elevations, either on the osseous portion of the external canal or on the tympanic membrane. In otitis media hæmorrhagica the source of the hæmorrhage, as the name implies, is the middle ear, especially the cavity of the tympanum, the mucous membrane of which is in a state of acute inflammation. The walls of the distended and engorged vessels give way, blood is poured into the cavity of the tympanum, the tympanic membrane is ruptured, and hæmorrhage takes place externally. The following case is probably unique in respect of (1) the tender age of the patient, and (2) the serious loss of blood. A baby (girl) of 9½ months was sent to me on November 17th last by Dr. Sinclair Kennedy, of Perth. I was informed that, five weeks previously, the baby had become restless, uneasy, and sleepless, apparently from severe pain. These symptoms continued for about a week, and then seemed to be explained by the appearance of muco-purulent secretion from the left ear. There was also noticed a considerable swelling in the neck below the left ear. This escape of matter was on the evening of Friday, and on Sunday night the mother awoke, and was dismayed to find the upper part of the child's dress saturated with blood; she was of opinion that at least a cupful of blood must have escaped. Dr. Kennedy says, in a letter of November 15th, "I was sent for at 5 A.M. on Monday, when I found the child deluged with blood from the left ear. I used a weak injection of acetate of lead, and enjoined rest. The bleeding returned once or twice during the day, but not to so great an extent. I had Dr. Bramwell seeing her with me in the afternoon, and we tried to see the state of the tympanum, but she was so restless we left her alone. We thought she must have had some inflammatory mischief of the middle ear, with rupture of the membrane. Under the ear there was a swelling as large as a walnut, and tender to touch, with a brawny feeling around. She had no pain over the mastoid process, but did not like to be touched over the head of the lower jaw-bone. She was put on iodide of potash, with liq. hydrarg. perchlor. and tinct. of iodine. Iodoform was put into the ear on cotton-wool, and iodoform and vaseline applied to the swelling under the jaw. Some hours after the first bleeding a troublesome dry cough came on, without any chest symptoms, and so we concluded it was aural. The bleeding again returned on Tuesday morning, and I put her on gallic acid internally. From this time there was no return of the bleeding. In a few days the swelling under the jaw went completely away. The discharge from the ear by Thursday, the 21st, was colourless and odourless. On her recovery I tried to examine the ear, but she was restless with me. However, I felt satisfied. I saw a ragged tear of the under half of the tympanum."

When I examined the patient, there was neither discharge from the ear nor perforation of the tympanic membrane; but a small cicatrix on the antero-inferior part of the membrane indicated the recent existence of a perforation. The membrane had not the ordinary lustre, and the vessels of the manubrium were somewhat injected. The Eustachian tube was permeable. I had no doubt that a perforation had recently existed in the tympanic membrane, and that the hæmorrhage had its source in the middle ear. The child was decidedly anæmic, but, according to the statement of the parents, the pallor was much less than it had been soon after the bleeding, when the face was quite blanched.

In regard to the explanation of the hæmorrhage in a case such as this, it has been argued that the dilated and engorged arterioles in the tympanic mucous membrane give way under the influence of the partial or complete vacuum produced in the tympanic cavity from the closure of the Eustachian tube. It is urged that just as rarefaction of the air in the tympanum may so act upon the blood-vessels of the mucous membrane of the middle ear as to produce a serous exudation (*hydrops ex vacuo*), so when acute inflammation exists with, as a consequence, dilated and engorged arterioles on the surface of the mucous membrane, the suction may in time lead, not simply to transudation of serum through the coats of the vessels, but to their rupture, with free hæmorrhage into the cavities of the middle ear. In this case, however, there was probably perforation of the tympanic membrane two days previous to the hæmorrhage, which would remove the vacuum, unless, indeed, which is quite conceivable, the aperture in the membrane was afterwards closed temporarily by inspissated secretion, so as again to lead to partial rarefaction of the air. But while admitting the possibility of the vacuum theory, it must be pointed out that such conditions frequently exist—in every case of otitis media, a very common affection—without hæmorrhage; and therefore it is probable that in cases attended by hæmorrhage there is, in addition, some peculiar weakness of the walls of the vessels of the middle ear. Such weakness may be the result of morbid changes due to Bright's disease, and several cases are on record of hæmorrhage from the mucous membrane of the tympanum associated with, and probably the result of, chronic Bright's disease, corresponding, as has been suggested, with the retinal hæmorrhage of the same disease. In this child there was no evidence of the existence of Bright's disease, and, indeed, the age was quite opposed to the supposition of changes in the arterial coats from chronic Bright's disease. Apart, however, from Bright's disease or any other chronic affection, there was probably in this child a hæmorrhagic tendency which predisposed to the hæmorrhage. Just as ophthalmic surgeons recognise a form of retinal apoplexy in the young, due simply to a hæmorrhagic tendency, so may such a case as this (tympanic apoplexy) have its origin mainly in the same predisposition. The immediately determining cause may have been the action upon the dilated and engorged vessels of the partial vacuum in the cavity of the tympanum. In view of the predisposition to the hæmorrhage which probably existed in this child, the parents were instructed to use every precaution in order to avoid, if possible, future inflammatory attacks in the ear.

The following authors may be consulted by those interested in the literature of this subject:—

Dr. Roosa's *Practical Treatise on Diseases of the Ear*; Politzer on the Membrana Tympani (p. 95), translated by Drs. Mathewson and Newton; Schwartz in a paper in *Archiv für Ohrenheilkunde*, entitled "Ein Fall von Bluterguss in die Paukenhöhle bei Morbus Brightii." Bd. iv; Dr. McBride on Otitis Hæmorrhagica in *Archives of Otolaryngology*, vol. xv.

LUMBAR COLOTOMY; THE CAUSES OF FAILURE IN FINDING THE COLON, AND HOW THEY MAY BE OBVIATED.

By HERBERT WM. ALLINGHAM, JUN., F.R.C.S.,

Surgeon to the Great Northern Hospital; Demonstrator of Anatomy at St. George's Hospital.

MANY surgeons commence the operation of lumbar colotomy under the impression that it may be impossible to find the colon, and almost all of us have seen the best operators experience difficulties and even failure in finding the gut. Cases, too, have been reported in which the small intestine has been opened by mistake. Knowing this, and having read Mr. C. B. Lockwood's interesting

pamphlet on the development of the colon and the abnormal positions it may take up, it occurred to me to try and find out these causes of failure, and, what is more important, the ways by which they may be overcome. All will agree that unless one of the longitudinal muscular bands (which are invariably and only found in the large intestine) be seen, the intestine should not be opened from the loin. These bands are described as being situated, one on the anterior surface, another along the inner part, and the third at the posterior aspect of the gut. It is this posterior band that is looked for, and generally supposed to be seen, when searching for the bowel in lumbar colotomy. It is thought by some authorities that these bands can be easily detected without opening the peritoneum, but this is not so, except in a very few cases. For I find from an examination and dissection of over one hundred ascending and descending colons, that the bands are always more easily and distinctly seen when they are covered by the peritoneum, which makes them hard, prominent, and shiny; whereas when the peritoneum is stripped off them, these characteristics are lost. I admit that in eight cases out of the one hundred examined one or two of these bands could be seen, but not very distinctly, on the posterior part of the intestine, although they were uncovered by peritoneum. When the peritoneum only covers about one-half or two-thirds of the circumference of the gut, it is generally reflected off the gut at the longitudinal bands on to the walls of the belly. Thus, unless the peritoneum is stripped off, the bands are not visible. If an attempt is made to expose these longitudinal fibres the peritoneum, owing to its being so firmly adherent to them, is frequently torn and the abdominal cavity opened perhaps unknown to the operator.

It is argued in favour of lumbar colotomy that the large intestine can be reached without opening the abdominal cavity. This, of course, is possible. Yet it is much more important to make absolutely certain that the large intestine is being opened by first seeing the longitudinal bands. This, from the anatomical points I have mentioned, can only be done by opening the peritoneum. Moreover, I propose to prove that in this way only can the large intestine be found with certainty in most cases. I am strengthened in these conclusions by three cases in which I operated on the right side on the dead subject, where it afterwards appeared that, if I had not looked carefully for the longitudinal bands, the descending portion of the duodenum would have been opened instead of the large intestine. This occasionally happens when operating on the living.

Some years ago my father came to the conclusion, after careful investigation, that the best incision from which the colon could be found was one with its centre quite half an inch posterior to midway between the anterior superior and posterior superior spines of the ilium, and midway between the last rib and the crest of the ilium. This incision should be limited in length to between two and three inches, for this compels the operator to cut down exactly to the position in which the colon generally lies; whereas if, as is frequently the case, the length of the incision is five or six inches, the operator runs the risk of missing the gut. Moreover, another advantage of the small incision is that afterwards there is no prolapse of the gut and very considerable sphincter power is obtained. For it is obvious that if a large wound is made, which does not heal by first intention at the anterior and posterior part, a weak cicatrix is left in the abdominal wall, and there is consequently a loss of muscular power over the new anus.

I will now consider the various positions which the right and left colons may occupy with regard to their peritoneal covering. The general position (as shown in Diagram 1) is where the peri-

toneum only covers a half or two-thirds of the circumference of the gut, leaving the posterior part uncovered, with the intestine bound down to the loin. This, according to Mr. Treves is found to be the position in

74 cases out of 100 on the right side,
64 " " 100 " left "

My own observations, assisted by Mr. Stewart Pollock and Dr. Penrose at St. George's Hospital, show

11 cases out of 60 on the right side,
10 " " 60 " left "

This, by taking the percentage, is

18½ cases out of 100 on the right side,
16½ " " 100 " left "

From this it would appear that the position above described is less general than is popularly supposed. With the intestine in this state and a longitudinal muscular band seen, which must be uncovered by the peritoneum, all should go well, and there is little or no difficulty in operating. But when no bands can be seen, owing to the peritoneum covering them, the best distinction between large and small intestine is wanting. Therefore, knowing that the small intestine is frequently exposed by opening the peritoneum unwittingly, I consider that it is much more advisable to open the peritoneum intentionally and search for a piece of intestine with longitudinal bands than to run the risk of opening the small intestine, under the impression the peritoneum has never been opened at all, and that it is the large intestine with which you are dealing.

In Diagram 2 the colon is represented entirely surrounded by firmly adherent peritoneum, and having a comparatively short

Diagram 2.

mesentery, and in such a condition that it is absolutely impossible to reach it or to see the longitudinal bands without first opening the peritoneal cavity.

The ascending and descending colons were found to have a mesentery of varying length, according to Mr. Treves, in

26 cases out of 100 on the right side,
36 " " 100 " left "

I have observed this in

49 cases out of 60 on the right side,
50 " " 60 " left "

showing, by taking the percentage,

81½ cases out of 100 on the right side,
83½ " " 100 " left "

In Diagram 3 it will be seen that this condition of mesentery is much intensified, and that the intestine, although it may rest in the loin, can so alter its position in the belly that when operating

Diagram 1.

Diagram 3.

on either side it may lie on the side of the belly opposite to that

in which the incision is made. It then, in the cases reported, was said and supposed to be impossible to find the colon from the lumbar region.

The last two examples show how imperative it is to make sure that it is the large and not the small intestine, or even the stomach, which is going to be opened. At the risk of reiteration I must impress upon my readers the necessity of following the lines laid down for ascertaining that it is the large intestine which the operator is bringing to the loin. The presence of the appendices epiploicæ may also inform the surgeon that he has found the large intestine, but I do not consider these as so important as the longitudinal bands, since the appendices may not always exist on the piece of large gut brought to view. Bearing in mind these anatomical facts, we must now consider how they may be dealt with successfully.

In a case represented by Diagram 1, after exposing a piece of intestine, and failing to see a longitudinal band, I make a small incision into the peritoneum, and convince myself, by finding a band, that it is the large intestine. The posterior part of the intestine is then taken hold of, drawn to the surface of the wound (the gut being pulled out as far as possible, so as to obtain a good spur), and carefully stitched with interrupted sutures all round to the edges of the skin, without perforating the mucous lining. The intestine may then be left unopened for some hours, or, if necessary, opened at once, provided that it is carefully attached at every point to the surrounding edges of the wound.

When a condition occurs, as is represented in Diagram 2, of course in the first place a sufficient search should be made for the gut about the subperitoneal tissue, under the assumption that it is in its normal position; but should this search fail, all the loose pieces of fat must be sponged out of the wound, and the peritoneum at the anterior angle of the wound, deliberately opened (and the edges clipped), just sufficiently to admit the index finger. This finger I pass towards the vertebræ, and then sweep it over the front of the kidney and quadratus lumborum, and the gut, although it be in the position represented in Diagram 2, can be easily felt, hooked up, and the longitudinal bands seen. I then open the peritoneum to the extent of the wound, and introduce a sponge, with string attached, to keep the intestine out of the way while the edges of the cut peritoneum are drawn up and sutured to the skin in the manner I adopt in inguinal colotomy. This entirely shuts off the cut abdominal muscles from the peritoneal cavity. Occasionally this stitching is not easy to do, either on account of the depth of the wound, or from the firm adherence of the peritoneum to the abdominal wall. The rest of the operation is completed in the usual way, as described in Case 1. Here, if the mesentery be sufficiently long, a stitch may be passed through it, fixing it to the surface of the wound; thus a good spur is obtained.

In dealing with the third position, as represented in Diagram 3, after proceeding in the manner described in Cases 1 and 2, and failing to find the colon, I then enlarge the external wound forwards and backwards sufficiently to admit the hand. I next open the peritoneum to a corresponding extent, and, having well cleaned the hand, I introduce it into the abdomen. If it is the left colon that is to be operated on, I first pass the hand upwards towards the spleen, and feel for the splenic flexure. Hereupon I draw the hand down the intestine until the piece opposite the wound is found and brought to the surface. Failing to find the intestine at its splenic bend, I pass the hand towards the rectum or across the abdomen (keeping the back of the hand in contact with the posterior aspect of the anterior abdominal wall), towards the hepatic flexure, and then slip the hand along the large intestine, and draw a piece to the surface. Of course I take care to ascertain that this piece of intestine has the characteristic longitudinal bands. By these means I have never found any difficulty in finding the colon.

When the large intestine is found, command it with forceps that will not perforate the gut, and introduce a sponge to keep the small intestines, which may prolapse, out of the way while the wound is treated as follows. At the anterior and posterior parts, if the incision is six inches long, two inches in front and two behind should be dealt with as in an ordinary case of abdominal section, by passing the suture through the skin and peritoneum, so as to bring the cut peritoneal edges in contact. But at the middle two inches of the wound where the intestine is to be brought up to the surface, the peritoneum should be sutured to the skin as described in Case 2, and the operation completed in the same way. In this third condition a good spur can and should always be made, and when the gut is opened its promi-

nent edges ought to be cut away in the manner I suggested in my paper on inguinal colotomy.

I cannot help thinking that the above described methods of treatment must have occurred to, and been used by, some surgeons when performing lumbar colotomy.

I am much surprised, considering the frequency of the operation, that these details are so little known, or, at any rate, practised. Yet, as far as I am aware, no account of these important details in finding or treating the large intestine from the loin has, up to now, been brought before the profession. This silence on the subject has encouraged me to express my views, and I am confident that I shall never undertake this operation with any fear of failing to find the colon. I do not at all advocate lumbar colotomy when it is possible to perform the inguinal operation, for the lumbar is certainly the more difficult; the patient runs greater risks and recovers with less rapidity, and the after results are not so satisfactory. Nevertheless, for those surgeons who persist in the lumbar operation, and in cases where the obstruction is at the upper part of the sigmoid flexure or in the transverse colon, I hope that these remarks may assist in simplifying the supposed difficulties, and minimise the mistakes not infrequently made.

SUCCESSFUL EXTRACTION OF A PIECE OF GLASS FROM AN EYE WHERE IT HAD LODGED FOR MORE THAN TEN YEARS.

By T. H. BICKERTON, M.R.C.S.,
Oculist, Liverpool Royal Infirmary.

HAVING, in the literature of ophthalmic surgery, been able to find but four cases mentioned¹ where glass has been found in the anterior chamber of the eye, a record of the following case may not be without interest.

Mr. H. T., aged 29, was, more than ten years ago, watching closely the manufacture of oxygen. Suddenly the glass retort burst, and, on Mr. T. recovering himself, numerous pieces of glass were found sticking in his face; his lip was cut in two, and he could not see well with the left eye. Owing to a severe corneal wound, he was for a fortnight kept in a darkened room, for three weeks longer he had a bandage over both eyes, and for about six months he wore dark protectors. The following is his statement as to the progress of affairs:—"My eye gradually got better; useful sight was regained; and for years it gave no trouble, though in cold winds it used to inflame now and again. Within the last four years it has given more trouble, but this was ascribed to a granular condition of the lids, and rubbing with blue stone gave relief. Still there was always a red look about the eye. In a fierce sun it was weak, and often, when playing tennis, it would water much and become red and irritable. Once, when bending over a dog, he suddenly jumped up, and his nose coming in contact with my eye caused pain. This year I have played tennis vigorously, and found the eye getting more and more red and irritable; and the local application of the blue stone, which up to this attack had always given relief, was now of no benefit."

On July 15th, 1887, the condition was as follows:—Right eye, V. $\frac{1}{2}$, J. i, normal in all respects; pupil $4\frac{1}{2}$ m. Left eye, V. $\frac{1}{4}$.

Left Eye.

I letter J. i; small brownish corneal cicatrix below and to the inner side of the centre of the pupil, to which a tag of the surface of the iris (not the pupillary margin) adheres, and from it a faint, cicatricial line runs up to the centre of the cornea; pupil $2\frac{1}{2}$ mm and slightly irregular; iris acting well to light; lens normal. Lying at the bottom of the anterior chamber, not quite horizontal, but tilted up to the outer side, can be seen, on careful oblique illumination, a foreign body, which is indistinguishable in certain positions, but which, when the eye is so directed as to allow the light to fall on its margins, can be seen readily. It lay in the

¹ Theobald, *von Graefe's Archiv*, vol. xxx, p. 2⁶; Ammon's *Zeitschrift*, vol. III, p. 103; Critchett, *Moorfields Reports*, vol. i, Ferguson, *Ophthalmic Review*, vol. iv, p. 293.