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Contributors

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Richards, Owen William, 1873-1949.
Royal College of Surgeons of England

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Localized Bilharziosis of the Large Intestine

BY

FRANK COLE MADDEN,

M.D.MELB., F.R.C.S.ENG.

*Professor of Surgery, Egyptian Government School of Medicine;
Senior Surgeon, Kasr-el-Ainy Hospital, Cairo*

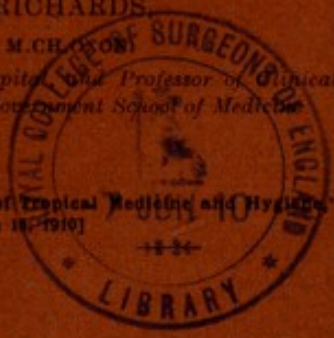
AND

OWEN RICHARDS,

F.R.C.S., M.CH. (LOND.)

*Surgeon to Kasr-el-Ainy Hospital, and Professor of Clinical
Surgery in the Egyptian Government School of Medicine*

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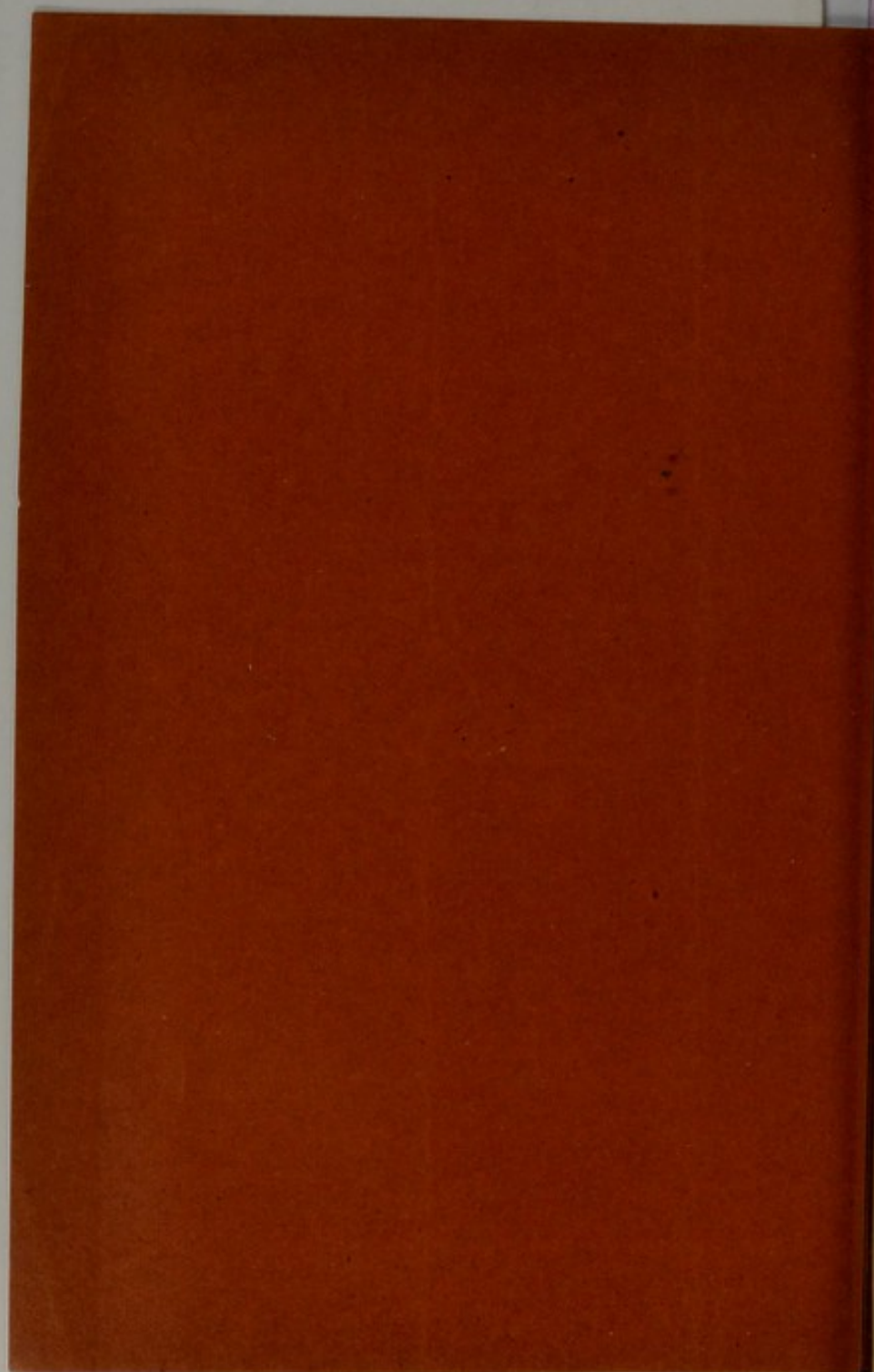


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TWO PAPERS ON LOCALIZED BILHARZIOSIS OF THE LARGE INTESTINE.

I.

THE SYMPTOMS AND TREATMENT OF LOCALIZED BILHARZIOSIS OF THE LARGE INTESTINE.

By FRANK COLE MADDEN, M.D.Melb., F.R.C.S.Eng.

*Professor of Surgery, Egyptian Government School of Medicine ;
Senior Surgeon, Kasr-el-Ainy Hospital, Cairo.*

INTRODUCTORY NOTE.

OUR main object in publishing our experiences in these two papers has been to direct attention to the existence of this peculiar localized bilharzial condition and to the mistakes that may be made in its diagnosis. At the same time, we have pointed out some of the possibilities of treatment; but, in so doing, we have tried to keep to what we have actually seen and done, without taking into account one another's experience or the literature of the subject.

I have elsewhere drawn attention to the peculiar localization of certain manifestations of the disease in special situations in patients suffering from generalized bilharziosis; and nowhere does this peculiarity find a better illustration than in the massive tumours in connection with the wall and peritoneal attachments of certain portions of the large intestine. Cases of this nature are met with from time to time in hospital practice, more particularly among the fellaheen—agricultural labourers—to whom bilharziosis is almost part and parcel of their very existence.

Such patients are usually thin, though not markedly emaciated, and complain of a lump in the abdomen

which, anatomically, occupies the situation of the cæcum and ascending colon, the transverse colon, the lower part of the descending colon, or the sigmoid loop. (In one case the mass lay in the middle line in the suprapubic region above the bladder; but on subsequent examination was found to have its origin in a particularly long sigmoid.)

This lump has existed for an indefinite period, has gradually increased in size, has been hard from the beginning, and is generally definitely painful and tender on pressure. The pain varies in severity from time to time, and is sometimes worse after meals and associated with a good deal of colic.

This train of symptoms continues for many months, even years, before any advice is sought, the tumour slowly increasing in size and becoming progressively more painful the while.

On examination the mass is easily felt as a hard, elongated tumour in the line of the gut, sometimes freely movable, sometimes, particularly in the descending colon and sigmoid, giving one the impression of moving upon an elastic, fixed base. The mass is roughly nodular and somewhat tender on firm palpation. The abdomen is not distended, and there are no evidences of peristaltic movements of the bowel above the mass; or, indeed, any signs or symptoms of intestinal obstruction at any time.

No glands are to be felt in the groin or elsewhere; in fact, beyond the *presence* of the tumour with the above-mentioned characters, no further light is thrown on its nature by abdominal examination.

A history of bilharziosis in some other situation can generally be elicited, and symptoms of bilharzial dysentery may be present. The rectum may be filled with bilharzial papillomata, or may be quite free from (naked-eye) infection. There is usually a history of *previous* bilharzial "dysentery," or symptoms of bilharziosis in the urinary tract.

In some cases, however, there may be no guide to diagnosis at all; but I am in the habit of teaching

that, just as in Australia any tumour in the abdomen may be first of all hydatid, so here in Egypt, in a fellah particularly, any hard abdominal tumour is presumably bilharzial until it is proved to be otherwise. Acting on this principle, it has become my practice to cut down on all such tumours; and it must be admitted that in nearly all cases my confidence in my tentative diagnosis has been fully justified by the result of the examination. I have been "on the look-out" for cases of this nature since 1901, and here include notes on four patients which well illustrate the different phases of the condition:—

CASE 1 has already been reported at length in the JOURNAL OF TROPICAL MEDICINE AND HYGIENE of May 1, 1901, but may again be referred to, as it was the means of drawing my attention to the occurrence of the condition under discussion.

It was that of a young man of 26, who was admitted to Kasr-el-Ainy Hospital, under Dr. Sandwith, with a history of fever, probably malarial, and the passage of blood and mucus in the faeces during the last two years. Three months before admission he had pain in the right side of the abdomen, with colic, which lasted for three days. There had been some vomiting at times, and pain in the abdomen and flatulence after meals. The urine contained no albumin, sugar, or bilharzia ova. The faeces were examined microscopically, and contained blood corpuscles and bilharzia ova. Small villous bilharzial masses were felt on the anterior wall of the rectum just below the level of the prostate. Both liver and spleen were enlarged; and, extending across the front of the abdomen above the umbilicus, was a horseshoe-shaped swelling, which was very hard, dull on percussion, fairly movable, and somewhat tender. The swelling seemed most probably a tuberculous omental mass, and, as the patient began to lose weight and had severe pain at times, Dr. Sandwith transferred him to me for exploratory laparotomy.

An incision was made in the middle line of the

abdomen above the umbilicus, and the omentum presented into the wound. It was very thin and ill-developed, and contained several "fleshy" masses scattered throughout its substance. A large number of soft swollen mesenteric glands of various sizes were found also, and just under the abdominal incision was a soft nodule, the size of a large almond, on the parietal peritoneum.

All these appearances seemed to indicate a malignant infection of the peritoneum and abdominal glands, and further operation did not appear to be possible or advisable.

The transverse colon was examined and found to contain a large hard mass within its lumen. On making an incision into the gut a fleshy tumour, with smooth undulating surface was exposed, firmly incorporated with the wall of the gut at its meso-colic attachment, and extending for some 6 in. along it. Imagining that our diagnosis of cancer was confirmed, no attempt was made at excision, and the enterotomy wound was closed with Lembert's sutures, and the abdominal wound closed in layers.

Professor Symmers reported that the omental and peritoneal nodules contained hundreds of bilharzia ova; but none were found in the mesenteric gland removed for examination. Unfortunately no piece of the mass in the colon was removed, but, from the presence of bilharzial lesions in the rectum and in other situations in venous connection with the colon, it is reasonable to infer that this was also a bilharzial manifestation.

The subsequent history of the case was most interesting. Briefly, the patient had no bad symptoms, very soon took all his food by mouth, began to put on weight, and lost all his pain. What is more extraordinary is that the *tumour gradually disappeared and could not be discovered, on careful examination, when the patient left the hospital six weeks later.*

CASE 2 was an old man, admitted January 20, 1904, complaining of diarrhoea with occasional blood in the

motions and a gradually increasing painless lump in the lower abdomen. Bilharzia ova were found in the faeces, but no papillomata could be discovered in the rectum. On examination in the iliac fossa there was a hard mass, which was movable to some extent towards the middle line and slightly tender on pressure.

An incision as for inguinal colotomy was made, and an enormous hard thickening of nearly 6 in. of the sigmoid was found lying on a solid massive induration of the meso-sigmoid. The appendices epiploicae were swollen and hard, and the serous surface of the gut was thickly studded with small sarcoma-like deposits, in places forming larger, firmer, almost fibrous, lumps.

Removal of the mass did not appear to be possible, owing to the infiltration of the meso-sigmoid, which fixed it down to the iliac fossa, but an incision was made into the gut through a very much thickened wall, the muscular coat being especially hypertrophied, and it was then seen that its whole lumen was filled with firm bilharzial polypi of various sizes and shapes, feeling through the gutlike stones in a wash-leather bag. Some of the papillomata were removed to confirm the diagnosis, and the opening in the gut sutured by Lambert's method, and the abdominal wall closed in layers.

The subsequent notes of the case are to the effect that all symptoms greatly improved after the operation, and three weeks later the patient was discharged with "no diarrhoea, no blood in the motions and the tumour hardly to be felt." Another case, also in an old man, precisely similar in characters to the above, but involving the caecum, appendix and lower end of the ascending colon with the meso-caecum and meso-colon in one huge mass, was treated in the same way, an incision being made in the caecum. The diagnosis in this case was confirmed by Professor Looss, who was present at the operation, and subsequently examined the papillomata removed. The result of the operation was equally satisfactory.

CASE 3 was a man, aged 30, admitted on July 5, 1909, in whom the tumour was thought to be in connection with a bilharzial bladder; but, on opening the abdomen through the sheath of the rectus, it was seen that the sigmoid and the meso-sigmoid were involved in characteristic fashion. The external surface of the gut was smoother than usual, but the lumen was packed with papillomata.

It was impossible to judge of the effect of operation in this case, as the patient developed mental symptoms, and was taken out of hospital five days after the operation. The abdominal wound, however, was quite sound, and there were no signs of either local or general sepsis.

In this, as in all the other cases, at the line of demarcation where the papilloma growth and the thickening of the gut cease, both above and below, there was nothing like a constricting band, though the transition was particularly abrupt.

CASE 4 is the only case I have seen in a woman. She was quite young, and was admitted on July 12, 1909, with a hard mass across the front of the lower abdomen, freely movable upwards and towards the left. The bulk of the tumour appeared to lie towards the right side, but on opening the abdomen the same extraordinary thickening of the sigmoid and its surroundings was found as in the other cases. The wall of the gut was particularly thick and dotted over with tiny, almost translucent, sago-grains, not unlike masses of lymph, and the meso-sigmoid was much infiltrated. The papillomata inside the gut were as numerous as usual, and the same enterotomy and closing of the abdominal wall was practised as before. My colleague, Dr. Dobbin, Professor of Gynaecology, who kindly saw the case with me, as there seemed a possibility of the condition being of a gynaecological nature, was present at the operation, and agreed with me as to the unwisdom of attempting to remove the mass.

Ten days later Dr. Dobbin examined the abdomen again, as I wished to be convinced that my note,

"the tumour has disappeared," was justified, and his brief but striking comment on the bed-ticket—

"I see and marvel" is more eloquent than any lengthy description of our findings at this date.

In this particular instance the patient had few symptoms of recent date, except a dull pain in the tumour, with exacerbations from time to time. She left hospital ten days later entirely free from pain or discomfort.

In the whole series of cases I have never seen any symptoms of intestinal obstruction, and it may be that, with the enormous hypertrophy of the muscular coat of the gut, a very considerable peristaltic pressure is brought to bear on the faeces; and also the mucus, which is secreted in large quantity, "acts as a lubricant, and so allows masses of faeces to slip past the narrowed portion of the gut." It must be understood that the obstructing agencies are the masses of bilharzial papillomata and elevations within the lumen of the gut, and not any constricting bands in the wall of the intestine.

With reference to the treatment recommended I was led to adopt it by the extraordinary result obtained in the first case I met with. It was thought to be an entirely inoperable malignant mass in the wall of the transverse colon, with secondary deposits in the omentum, mesenteric glands, and peritoneum; and, more from curiosity, "to see what it was like inside," I made an incision into the gut, only to feel I wanted to shut it up again as quickly as possible. It was only the finding of bilharzia ova in sections of the peritoneal mass that gave us the clue to the correct diagnosis.

Shortly afterwards an excellent specimen of a bilharzial sigmoid, rectum and meso-sigmoid, with characters similar to those of the transverse colon case, was found by Professor Symmers at an autopsy on one of my cases of generalized bilharziosis. In the mass in the meso-sigmoid Professor Looss found many coupled pairs of worms figured in Mense's "*Handbuch der Tropen-Krankheiten*," thus definitely

confirming the nature of these masses. Since these cases I have been eager to operate on every case I could find; and, though they are not very common, my experience has been sufficiently extensive to justify me in predicting a favourable result by the simple measures I have advocated above.

In 1907 I wrote¹ "in every case the result of this procedure has been satisfactory, the dysenteric symptoms have completely disappeared, and the tumour appreciably diminished in size" (even disappeared, to abdominal palpation).

"Why they should do so one cannot imagine, but the fact deserves to be mentioned as, when we remember the very general involvement of the other parts of the intestinal tract in these cases" (this is not always evident, however), "no serious operation such as excision of the affected portion of the gut can ever be justified." Further experience only tends to confirm this expression of opinion.

Cases have been reported of the disappearance of symptoms and tumour after suprapubic opening of a bilharzial bladder, which afford a certain analogy to the present series of cases, but I am inclined to look on such results as "flukes," though I have myself reported such a condition.

It seems more reasonable to consider these results as being in the same category with the disappearance of symptoms and mass reported, after simple laparotomy, in cases of cancer (!) of the pylorus and pancreas, and although it is interesting to surmise that the incision in the peritoneum and the manipulation within the peritoneal cavity leads in some occult way to the disappearance of these masses, perhaps by producing an alteration or an improvement in the absorptive powers of the lymphatics or the veins, we must reluctantly admit that exactly what happens and why it happens is still wrapt in mystery.

¹ "Bilharziosis," Cassell and Co., 1907.

II.

THE OPERATIVE TREATMENT OF BILHARZIOSIS OF
THE LARGE INTESTINE.

By OWEN RICHARDS, F.R.C.S. M.Ch.Oxon.

*Surgeon to Kasr-el-Ainy Hospital and Professor of Clinical
Surgery in the Egyptian Government School of Medicine.*

Bilharziosis of the colon may be considered under two clinical types: the one diffuse, in which the whole or a great part of the large intestine is affected (the so-called bilharzial colitis); the other localized, in which the disease forms a sharply defined mass lying in the course of apparently healthy bowel.

The first of these is vastly more common, it has been repeatedly described, and I have nothing to add to the description. The diagnosis is fairly easy, especially when the rectum is involved; the radical cure of it is so far quite impossible.

A good deal can be done to relieve those symptoms which depend mainly on disease of the lower end of the rectum. Tenesmus can often be lessened and bleeding checked by the removal of polypi from the anal canal, by applications through a speculum to the mucous membrane, and by the use of starch and opium enemata. In cases where the chief complaint is prolapse Whitehead's or some more extensive operations are sometimes useful. But these measures are merely palliative, and can only be applied to the lower end of the rectum; they leave the main part of the diseased area absolutely unaffected.

In one case, under the care of Dr. Ll. Phillips, I tried to relieve the symptoms by doing an appendicostomy and washing through the whole of the large intestine. The washing was easy to do and nearly painless, but I do not think it did any real or lasting good. The patient was discharged "relieved," and later readmitted. He died two or three months after the operation of thrombosis of the portal vein.

Post mortem his colon was described as follows:

"The retro-peritoneal tissues around the colon are thickened and infiltrated, there are nodular projections from the serous coat, especially in the sigmoid flexure. From the anus to the end of the hepatic flexure are adeno-papillomata to the number of some 250, with blood-coloured summits. Elsewhere the colon as far as the caput cæcum shows bilharzial colitis."

When a case is so extensive and severe as this treatment of any kind known to us at present is bound to be futile. The most one can hope to do is to diminish ulceration and loss of blood by keeping the bowel moderately clean. Still appendicostomy represents a rational attempt at treating the whole of the diseased area, however feebly, and it might relieve a slighter case.

The large intestine in this disease is apt to be closely adherent to the posterior wall of the abdomen, and in this case the appendix, which was healthy and of the foetal type, shared in these adhesions for its whole length. Except for the slightly increased difficulty and risk of sloughing due to this cause, there is no reason why this simple operation should not be used in this as in other forms of colitis.

Apart from such palliative measures, the only cure we can hope for in diffuse bilharziosis is a natural one. If the patient lives long enough, without reinfection, for all the worms to die and all their eggs to be discharged he may be called cured. But as we are incapable of affecting in any way either the worms or the discharge of their eggs, and as we cannot protect discharged patients from reinfection, our only contribution to such a cure consists in trying to keep the patient alive till it occurs.

In localized bilharziosis the conditions described above are to some extent reversed. The diagnosis, for instance, is much less easy, and masses of this kind have on several occasions been mistaken for malignant growths. On the other hand, radical cure is not necessarily out of the question, a sharply localized

mass is open to surgical treatment in a way that a diffuse infection is not.

For these reasons I have thought it worth while to report the following case, which illustrates fairly clearly the clinical characters of the type, the possible errors of diagnosis, and the questions which arise in regard to treatment.

The patient, an Egyptian camel-driver, aged 35, was admitted to Kasr-el-Ainy on December 5, 1909, under the care of Dr. Ll. Phillips. For the last nine months he had suffered from a lump in the abdomen and flatulence. Sometimes there was difficulty in passing flatus or motions, and sometimes distension and borborygmi, never any vomiting. The passage of feces was slow and painful, and accompanied with blood. He had been working intermittently till ten days before admission, since then he had been too ill. There was no previous history of any significance.

On admission there was a definite cylindrical vertical mass in the left iliac fossa, extending up into the loin, visible through the abdominal wall, slightly movable inwards, firm and rather tender to touch. There is dulness over the mass, resonance above and below. Liver and spleen not enlarged, nothing else abnormal in the abdomen. Defecation painful, mucus and blood precede the feces. Urine clear yellow, containing bilharzia eggs at times, at others none, nothing else abnormal.

Dr. Phillips diagnosed a growth in the sigmoid, probably bilharzial. We examined the case together with the sigmoidoscope. In the first 8 in. of the bowel there was nothing wrong except two small scarlet raised patches, each the size of a split pea, apparently bilharzial. Further up we found a central circular opening, as big as a lead pencil, which refused to dilate with inflation, and just allowed us to distinguish some dark-red masses beyond it. As a result of this examination the patient was transferred to the surgical side with a "probable" diagnosis of carcinoma of the sigmoid.

On December 9, under chloroform, with the assistance of my colleague, Dr. Aly Bey Ibrahim, I explored the mass through an incision splitting the left rectus. It was situated in the course of the descending colon and sigmoid, about 4 in. long by 2 in. in diameter, solid, irregular, of uneven hardness, giving the sensation of a contained lobular mass, fixed in the middle, and slightly movable at either end. There was no meso-sigmoid, the bowel was tightly bound to the posterior wall. Only one enlarged gland was present, the lumbar region quite free. The colon above was healthy and not dilated, the bowel below seemed rather hypertrophied, with a bigger lumen and thicker walls. It was decided to attempt the removal of the mass, but since the ends of healthy bowel would not have come together as they lay, the peritoneum was incised vertically on the outer side, and the whole mass stripped forwards and rotated inwards till it was sufficiently free. Excision was then performed, and the ends united with Halsted and continuous sutures. Some difficulty was found in avoiding tension, and of course the outer side of the rotated bowel was bare of peritoneum. Loose peritoneum was drawn together over the inner half of the suture-line, and a tube introduced through a stab in the loin to the outer and posterior part of the junction. For the first two or three days there was a good deal of distension, and on the fifth day, after calomel, some liquid faeces escaped from the tube. After this improvement was rapid, the patient ate heartily, and passed solid motions *per rectum*. The tube was retained for three weeks as a precaution, the sinus closed at once on its removal. The patient was walking about a few days later; but he developed some thrombosis of the external saphenous vein, and had to return unwillingly to bed. He remained there for three weeks, and was then discharged. On discharge he was free of symptoms, there was no tumour, no difficulty or pain in defaecation, and no blood in the stools. His general condition was good.

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furnished me with the following description of the specimen (see plate).

The excised cylinder of bowel was laid open by a longitudinal incision passing through the sub-peritoneal tissue posteriorly. The specimen in the fresh state measured $4\frac{1}{4}$ in. vertically, and after fixation $3\frac{1}{4}$ to $4\frac{1}{4}$ in. transversely. With the exception of a transverse band of mucosa $\frac{3}{4}$ to 1 in. broad at the lower end, the whole of the mucous lining is the seat of large numbers of adeno-papillomata, such as are typically seen in bilharziosis of the large intestine. These, though they exhibit considerable variations in size, have apparently originated at about the same time. In other words, there is no evidence of local necrosis or of the formation of ulcers as the result of torsion and subsequent gangrene of the masses. They project $\frac{1}{2}$ to $\frac{3}{4}$ in. from the surface all round. Those in the lower part of the area, however, are rather larger than the rest, and show a commencing pedunculation. The mucous membrane is everywhere highly catarrhal and thickened, and the muscular walls are considerably hypertrophied. The sub-peritoneal tissue is congested and infiltrated, and the appendices epiploicæ have a more solid fibrous texture than usual.

From previous dissections carried out on similar material it may reasonably be concluded that practically the whole of the sexually mature parasites responsible for this condition would be found either in the minute veins of the subperitoneal zone in close proximity to the muscular coat of the bowel, or in the submucous coat, and have therefore been removed in the specimen. It is probable, however, that other parasites would be found in branches of the mesenteric veins other than those draining the particular portion of bowel removed.

These rare localized affections of the colon are only explicable on the hypothesis that in the downward migration of the worms certain branches of the middle and mesenteric veins have been followed to the exclusion of others. Similar strict localizations are

frequently illustrated in bilharzial infections of the ureters.

As regards diagnosis, both Dr. Phillips and I are only too familiar with the usual rectal bilharziosis, of which we see several instances every out-patient day, but the appearances in this case, the 8 in. of healthy bowel ending in a central stricture, completely misled us. The "stricture" may have been spasmodic; it was certainly not organic. There was nothing else in the abdomen, and the site is one in which malignant growth, at any rate in England, is fairly common.

Even when the abdomen was opened the appearances described above seemed consistent with the diagnosis of cancer. Certain points might have aroused suspicion if one had seen a similar case before—the absence of any signs of obstruction, and the lobular mass slipping about in the lumen. When the bowel was opened the diagnosis was at once obvious; but by that time it was simpler and safer in any case to complete the operation.

The real causes of error were, I think, want of familiarity with this relatively rare form of the disease, and omission to search for eggs in the faeces. The search for eggs is less simple and decisive than it appears. In places where the disease is rare their presence is not likely to be suspected; here, on the other hand, it is so common as to be inconclusive.

Dr. Ferguson tells me that in males between 5 and 60 years of age he is able to demonstrate bilharziosis of bladder or rectum or both in 44 per cent. of all *post-mortem* examinations. So that a man with malignant growth is just about as likely to be passing bilharzia eggs as not. Still, a quantity of eggs in the faeces would always raise a suspicion of the bilharzial nature of an abnormal tumour.

The most important diagnostic point in the case was, I think, that in spite of the solid, firm, fixed character of the mass, there was no real obstruction. After removal, although the lumen was packed with papillomata, I could easily pass my finger right

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In suitable cases examination with the sigmoidoscope might help the diagnosis, or the removal, or accidental passage, of a bit of papilloma. The presence of other bilharzial lesions, or eggs in the urine or faeces, is suggestive, but, for the reasons given above, not conclusive.

At any rate, the first step towards diagnosis is to be familiar beforehand with the fact that bilharziosis may be absolutely localized clinically in a very small part of the colon, and that such localized infection may give rise to a considerable tumour and very severe symptoms.

As regards treatment, the question raised by this case is whether resection of such masses is justified. Undoubtedly it is a rational and thorough method of dealing with them, inasmuch as it removes not only the affected bowel, but also the worms responsible for it. (*Vide* Dr. Ferguson's report.) But several objections may be raised to it. Bilharziosis is not carcinoma, it does not inevitably progress to a fatal ending, and it does not cause obstruction. Theoretically, at any rate, the patient may arrive at a natural cure, though practically, when the disease is severe enough to confine him to bed with constant pain and loss of blood, the prospect is not a very hopeful one. But it cannot be maintained that operation is his only chance; it can only be suggested that it is his best one.

Again, even if the mass is the only gross clinical lesion, there may be, and usually is, a further invasion, so that the clearance effected is only apparent; other lesions may arise elsewhere later. This patient, for instance, had eggs in the urine, and may later develop a cystitis. On the other hand he may not, and now that he is relieved from the only symptoms which invalidated him, his position is no worse than that of a large proportion of the fellaheen who are actually at work.

It may be said that the operation is too severe and

dangerous for the gravity of the illness. That is largely a question of the proper selection of cases. Dr. Goebel (*Comptes Rendus du Premier Congrès Egyptien de Médecine*, vol. ii., p. 53) reports a case in which he removed the descending and part of the transverse colon for this disease. The condition of the patient must have been very bad to require such an operation, and fairly good to permit of recovery from it. It is, in fact, not stated whether recovery occurred, or in what way the bowel was united. I do not know how many cases of resection for bilharzia have been recorded, but it seems fairly clear that it should be limited to cases where there is sharp and narrow localization combined with great local severity. These cases are rare, but they occur, and it should be possible to recognize them.

It must be remembered that bilharzia patients are practically all fellaheen, for whom an invalid life, or even a prolonged stay in hospital, is out of the question. If nothing radical can be done for them they insist on returning home, where they probably go from bad to worse. It is worth some risk to restore a man of this kind to active life; and when all the circumstances are considered, I am not inclined to think the risk excessive, provided that the case is one of that small class that I have tried to define above. Resection in unsuitable cases is likely to end in disaster.