Carcinoma of the ascending colon and its treatment : with the record of two cases / by W. McAdam Eccles.

Reprinted from the BRITISH MEDICAL JOURNAL, January 13th, 1900.

CARCINOMA OF THE ASCENDING COLON AND ITS TREATMENT,

WITH THE RECORD OF TWO CASES.

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THE comparative rarity of malignant disease of the ascending colon causes the publication of every case to be a matter of some interest, and it is on this account that I venture to record the two following cases.

It is a fact that while the cæcum is almost as frequently attacked by carcinoma as is the sigmoid flexure, yet the ascending colon is very much less often affected by the same disease than the descending colon, and only slightly more frequently than the transverse colon with its hepatic and splenic flexures. These general statistics are, however, from the records of published cases, and they may not be so accurate if all the cases that occur were tabulated, but the main statement may be taken as true that the ascending colon is one of the less common sites in which malignant disease begins. In these remarks I have purposely excluded the rectum, which is undoubtedly the region where carcinoma most usually attacks the bowel.

There does not appear to be any very clear reason why the ascending colon, and to a minor degree the descending colon, should be to such an extent exempt from the appearance of a cancerous growth in its walls.

The blood supply of the cæcum is derived from what may be taken as a terminal branch of the superior mesenteric artery, the ileo-colic, but the ascending colon, transverse colon, and descending colon, are supplied by vessels which freely anastomose with one another, the two former by branches from the superior mesenteric, and the last by a branch from the inferior mesenteric. The sigmoid colon with the rectum are on the other hand nourished by arteries which again are of the nature of terminal vessels. Whether such a disposition of the arterial supply has any connection with the determination of the deposit of carcinoma, it is impossible to say, but it may be a factor in the causation of the disease.

It is also significant that the cæcum, the sigmoid, and the rectum are all dependent parts of the intestinal tract, and this, in addition may be another slight factor.

The lymphatics of the ascending colon pass to the meso-colic lymphatic glands, lying between the layers of the meso-colon, and sending their efferent vessels to the glands placed

in the proximity of the superior mesenteric vessels. This fact renders it extremely difficult or well-nigh impossible to eradicate the whole of the disease, when once these glands have become infected, in a case of carcinoma of the ascending colon.

The peritoneal investment of this portion of the bowel is, in the majority of instances, but a partial one. It is, moreover, usually less complete even than that of the descending colon, thus rendering the ascending colon as a rule more fixed than the corresponding portion of gut on the left side.

In about 26 per cent. of subjects there is a true meso-colon on the right side. The length of the ascending colon is on the average eight inches, while its calibre is larger than that of the descending colon. Its posterior relations are found to be the right kidney, above and externally, the second portion of the duodenum, internally, and the quadratus lumborum, at the lower part. The right colic artery enters it from behind, about the middle of its length. The right colic vein joins the superior mesenteric vein, and thus reaches the portal trunk. The position of the three longitudinal bands of muscular tissue is usually as follows: One on the vascular border, one on the anterior surface, and one internally. It is important to bear in mind these few anatomical details when this part of the intestine is being dealt with surgically.

CASE I. *Carcinoma of the Ascending Colon: Chronic, followed by Acute Intestinal Obstruction: Primary Resection of the Growth: Artificial Anus: Death from Exhaustion.*

History.—A. C., a man, aged 43, was admitted into the West London Hospital on May 3rd, 1897, with the following history: He had been in his usual health until the middle of January, 1897, when he began to have considerable difficulty with the evacuation of his motions, and the constipation was on one occasion so severe that it was accompanied by an attack of vomiting. In March of the same year he commenced to suffer from intermittent paroxysms of pain in the abdomen, and these continued up till a fortnight before admission, when he was again much constipated. On his return home from business one day about ten days prior to admission he had very severe abdominal pain, and began to vomit. He was seen by his medical attendant, who ordered him to remain in bed. He had no passage of fæces or flatus, according to his own statement, and was sick every day for a period of several days. At the end of this time his bowels acted after repeated doses of castor oil, and the vomiting ceased. Four days afterwards, that is, three days before admission, all the symptoms returned with greater severity, and continued right up to the time that he entered the hospital. His past history reveals nothing of importance save the fact that he had enteric fever when 22 years of age.

Condition on Admission.—He was seen by one of my colleagues, and looked ill and anxious, and was in obvious pain in the abdomen. The abdomen was distended, and the patient suffered from attacks of vomiting soon after admission. Careful palpation did not discover any swelling in the abdomen, and examination *per rectum* after the administration of an enema of 1½ pint of soap and water, two-thirds of which were returned with a little fæcal material, did not reveal any growth within reach of the finger.

Operation.—On May 7th he was passed over to my care, and I determined to explore the abdomen without delay. Accordingly, with the able assistance of my colleague, Mr. C. B. Keetley, I opened the abdomen in the middle line below the umbilicus, and found that the sigmoid and transverse colon were undistended. On passing my hand down to the region of the right kidney a hard mass, which was fixed, was discovered. Seeing the impossibility of dealing adequately with this through the original wound, I made another incision in the right linea semilunaris over the growth. It was then clearly seen that it consisted of a malignant infiltration of the ascending colon. The position of the growth was nearer the cæcum than the hepatic flexure, and it extended around almost the whole circumference of the bowel. Several enlarged lymphatic glands could be felt internal to the mass. The bowel above the site of the growth was much distended, and an incision into the cæcum caused the outflow of a large quantity of liquid intestinal contents. This evacuation appeared to so decidedly improve the general condition of the patient that it was determined to proceed to the excision of the carcinomatous stricture immediately. Accordingly, the gut having been clamped above and below

the growth, that portion of the bowel that was infiltrated, together with at least an inch of healthy tissue on either side, was cut away with comparative ease, and some of the infected glands removed with it. As the patient's state was now getting distinctly worse, it was not thought advisable to attempt an anastomosis there and then, so the distal portion of the bowel was closed rapidly by Lembert sutures, and the proximal part sutured to the skin. The wound in the middle line was then closed. The whole operation lasted one hour and three-quarters, and at the end of it the patient's condition was not so very much less satisfactory than at the commencement.

Death.—He rallied after his return to bed, but again passed into a state of collapse, in which he died some six hours after the operation. The growth microscopically was a typical adeno-carcinoma.

In this case one had to deal with a patient who had become very exhausted by the long-continued obstruction to which he had been subjected, which at the time of the operation was complete. It is the record of a failure, and I give the history, for it is only from such accounts that it is possible for the surgeon to become fully acquainted with the variety of cases that may fall to his lot to treat. It would have been wiser in this instance to have been content with merely bringing the bowel with its malignant growth out on to the surface of the abdomen, and to have made a temporary artificial anus on its proximal side.

The second case is one that contrasts markedly with the first, in that the patient had not reached that stage of acute obstruction which is so fatal for operative interference.

CASE II. *Carcinoma of the Ascending Colon: Chronic Obstruction: Eventration of the Growth: Secondary Excision and Anastomosis: Recovery.*

History.—M. A. E., a woman, aged 45, was placed under my care by my colleague at the St. Marylebone General Dispensary, Dr. Arthur Giles, and was admitted into the West London Hospital on May 4th, 1899. She gave the following history. About two years ago she first noticed dragging pains in the upper part of the abdomen, to the right of the middle line and on the level of the umbilicus. For the first twelve months the pains had occurred shortly after the taking of food, and have been at times very severe. For three months before admission she had had to live only on slop diet, and had lost flesh very considerably. The bowels had acted frequently and freely, and she did not ever notice the passage of any blood. Menstruation ceased at the age of 36, and she has only had one or two shows since then. Lately there had been increased frequency of micturition. Is married and has had four children, the youngest being 11 years of age. Her family history is suggestive. One aunt on her mother's side had "cancer of the stomach." A brother had a "tumour" in the abdomen, and was operated upon for it, and another brother had "cancer" in the abdomen, and was also operated upon, and both these relatives died from the effects of the operation. A sister had a "tumour" of the uterus, for which an operation was performed, and she died soon after it.

Condition on Admission.—The patient was a spare woman, though not extremely emaciated. The abdomen was slightly distended. In the region of the ascending colon there was a hard, somewhat nodular mass, which could be moved to some extent from side to side, but very little from above downwards. It was tender on pressure, and dull on percussion. There was no dilatation of the stomach, and the mass did not appear to have any connection with that organ. In the pelvis there was a firm elastic swelling to the right of the uterus and in the position of the right ovary. Attached to the anterior wall of the uterus was another hard swelling, somewhat nodular. There was no blood or mucus in the motions, which were passed four or five times a day. The administration of an enema caused considerable pain in the right lumbar region.

First Operation.—On May 19th I made a vertical incision in the right linea semilunaris over the hard swelling in the position of the ascending colon. The hand introduced into the abdomen discovered that this tumour was a malignant one encircling the ascending colon, and that in addition there was a cystic tumour of the right ovary and a fibromyoma of the fundus of the uterus. The cystic ovary was dealt with first, and was drawn out of the lower end of the wound, the pedicle ligatured, and the growth removed. The greater part of the ascending colon was now brought out of the wound, together with the carcinoma that was infiltrating its walls near the middle of its length. Careful examination before this was done failed to detect any evidence of infected lymphatic glands. The colon was fixed by a few points of suture to the deeper parts of the wound, and two

guide sutures passed through its serous and muscular coats abont one inch from either side of the new growth, so as to act as indicators at the subsequent colectomy. No artificial anus was made in the cæcum, seeing that there was no marked obstruction and no distension. The patient had but few untoward symptoms after this preliminary operation, and the fæcal material found its way freely through that portion of the bowel that lay on the abdominal wall.

Second Operation.—On May 27th, that is eight days after the first operation, I proceeded to excise the annular malignant mass without any anæsthetic. This was easily accomplished, and the cut ends of the bowel were then and there brought together by a row of silk sutures, and that with but little tension. As the intestine had to a considerable extent fallen back, no attempt was made at this stage to replace it within the abdominal wall.

After-History.—There was a slight escape of fæcal material from the site of one of the sutures, and but for this the patient made an uninterrupted recovery, the bowel sinking still further back, and becoming rapidly covered in. The passage of motions remained normal, and all the pain disappeared, and the patient steadily gained weight. The growth proved on microscopic section to be a typical adeno-carcinoma, and it had completely encircled the bowel.

The patient was seen again on December 1st, 1899, and had gained over a stone in weight, and there was no indication of any return of the growth. She had, however, a considerable ventral hernia, for which she had to wear a belt and truss, but was not inconvenienced thereby.

This case is one of great interest, as indicating two points, first, the comparative safety of an operation for the removal of a constricting growth before the signs and symptoms of acute obstruction have put in an appearance, and secondly, the success of dealing with the mass extraperitoneally.

There can be no doubt that for the success of a colectomy it is almost essential that the operation is performed before the chronic obstruction has become an acute one. It should therefore be an axiom that where a patient, and particularly one who has passed 40 years of age, complains of increasing difficulty in the evacuation of the motions, a very careful examination of the abdomen should be made, and this, if necessary, under an anæsthetic. It is not sufficient to endeavour to overcome the presence of constipation by the administration of purgative drugs, but the actual cause of the obstruction should be sought for, and in many instances it will be readily found. If a tumour cannot be palpated, then recourse may be made to the help of large enemata, and while these are being thrown into the bowel both auscultation and percussion should be employed, and by these means it is sometimes easy to determine the position of a constricting growth. I would especially draw attention to the fact that, while the rectum and the sigmoid flexure are the most usual sites for the deposition of malignant disease, yet the other parts of the large intestine must not be overlooked. When a tumour has been discovered, the sooner that it is dealt with surgically the better. I am only alluding here to tumours in the ascending colon, but many of the remarks bear equally well on those occurring in the rest of the great bowel.

An exploratory incision should always be advised, and if the site of the growth has been determined, it should be made, in the instance of the ascending colon, in the right linea semilunaris, and should be a free one, so that all the required manipulations can be readily carried out. It is better that a patient should survive with a traumatic ventral hernia than perish with an unremoved cancerous growth. The mass having been exposed, the method of dealing with it must be considered. If it is movable, and the intestine in which it lies is not too fixed, it is, I think, the safest and therefore the wisest

plan to bring the intestine with its infiltrating growth out on to the surface of the abdominal wall, and to perform the excision at a later stage. If there is acute obstruction at the time of the operation, I am quite sure that this is the best method, and to make, in addition, a temporary artificial anus on the proximal side of the growth. A patient who is exhausted by the presence of complete obstruction is not the one to stand the shock of a colectomy, even if anastomosis is not immediately undertaken.

This method of eventration of the bowel with the growth is a sound one in the case of the ascending colon for several reasons. First, the intestine has no complete covering of peritoneum, therefore its suture is not so safe within the abdomen as is the case with other portions of bowel. Secondly, there is but a short length of gut to deal with,which makes the manipulations difficult. Thirdly, that whereas there is probably the likelihood of a greater amount of subsequent contraction at the site of the excision, if this method is followed, yet this does not so gravely matter, since the contents of the ascending colon are for the most part liquid, and therefore find their way fairly easily through the constriction. In the case of the descending colon and the sigmoid flexure, eventration and excision may be said to possibly have this objection.

There is, I am disposed to think, a very considerable danger in attempting to perform the ideal operation, namely that of primary excision and anastomosis, in the case of the ascending colon; in fact, so great is it, that if there is complete obstruction present, it would seem to be hardly justifiable. Further, I think that if acute obstruction is present, it is safer to merely bring the intestine out on the abdominal wall and make an artificial anus, than to excise the growth and suture the open ends to the skin.

There is a distinct degree of shock attached to the removal of a portion of the intestinal tract, and this superadded, as has been said, to that produced by the acute obstruction, often turns the scale unfavourably for the patient.

In cases where the growth has become so fixed that it cannot be brought outside the abdomen, it may be best to perform an anastomosis between the ileum and the transverse colon near the hepatic flexure, and to leave the excision of the growth to a later operation, when the passage of the intestinal contents has been fully re-established. But these instances are unsatisfactory, for the fixity usually implies that the growth has advanced considerably and that the lymph glands have probably become infected; so that there is but little, if any, possibility of entire extirpation of the malignant disease.