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DISCUSSION.—DR. JAMES D. RIVES, New Orleans, La.: About a year ago I discussed Dr. Patterson's cases with him personally and was very much interested in his aggressive attack. When I heard that he was going to present this paper I had Dr. Irving Beychok, one of our residents at Charity Hospital, look up our cases so that we could compare our results with his.

In a period of fifteen years there were 151 cases of carcinoma of the cecum. Of these, 86 were operated upon and in 22 instances (one-fourth of the total) the operation was performed as an emergency with a diagnosis of an acute abdominal condition. In six cases the diagnosis was acute appendicitis. In seven it was ruptured acute appendicitis or carcinoma of the cecum with perforation. In nine instances the diagnosis was small bowel obstruction and in one it was acute pelvic inflammatory disease. We were more impressed with the mimicry of acute abdominal conditions by carcinoma of the cecum than with the instances of acute appendicitis associated with, or caused by, the malignant lesion.

In 1941, Dr. Samuel A. Romano, of our department, made a study of the presenting symptoms of carcinoma of the colon at Charity Hospital and found that contrary to most reports on the subject, pain and tenderness in the right lower quadrant were the commonest signs and symptoms of carcinoma of the cecum (60 per cent of the cases).

We have usually followed a more conservative, or perhaps I should say a more timid policy than that advocated by Dr. Patterson. In most instances we have done an ileo-transverse colostomy and resected the right colon in ten days to two weeks after the emergency procedure. After reviewing Dr. Patterson's results I am sure that a more aggressive attack has some advantages and few, if any, disadvantages. A two-stage procedure undoubtedly favors the spread of the malignancy to the peritoneum and perhaps also to the lymphatics or the liver. With the satisfactory control of infection by means of the antibiotics, the danger of resection of the bowel in the presence of acute infection has certainly been minimized if not completely eliminated. Furthermore, resection of the right colon is more similar to small bowel resection than to resection of the left colon. The peritonealized wall of the ileum can be anastomosed to a peritonealized surface of colon without interposed subperitoneal fat, and the intestinal contents which pass through the anastomosis are liquid rather than solid. In view of these facts I am convinced that our timid approach to the problem is now unjustified, and that Dr. Patterson has made a substantial contribution to the handling of these difficult lesions. In the future we propose to follow his more aggressive attack and confidently expect that our results will be improved.

DR. A. STEPHENS GRAHAM, Richmond, Va.: I have enjoyed both of these papers. I wish, however, to confine my remarks to the one by Dr. Patterson. It has been my practice for many years to close the abdomen on finding an unsuspected carcinoma of the cecum, doing an ileo-transverse colostomy and subsequent resection. But recently I have usually gone ahead with the radical resection at the time of exploration. Within the past two or three years I have had three patients with unsuspected carcinomas, and also definite, purulent appendicitis in two instances. Two of the lesions were at the junction of the cecum and the ascending colon; one was a large, fungating growth which caused intussusception, and there was gangrene of the appendix and a portion of the cecal wall as well. In all three of these I carried out radical resections. There was no wound infection, but an abscess of the peritoneal cavity had to be drained in two instances. Convalescence was not prolonged very much (they were discharged the 16th and 18th postoperative days respectively) but it was nevertheless a little discouraging.

I believe the solution of this problem has in part been solved by Poth. At a recent meeting of the College of Surgeons in Chicago he was kind enough to show me his unpublished statistics on the use of Neomycin injected into the colon, 500 to 1000 cc of a 1% solution at the time of resection. No other antibiotic was employed pre- or postoperatively. There were 10 or 12 cases of resection for acute large bowel obstruction, without a death or abscess formation and, as I recall, without wound

infection. It is my intention to follow this practice of Dr. Poth when an unsuspected lesion of the colon is encountered in the course of an abdominal exploration, provided acute obstruction does not exist. I am not yet ready to resect colon in the face of such a complication.

DR. ARTHUR I. CHENOWETH, Birmingham, Ala.: I have thoroughly enjoyed both these papers, and I wonder if the dilemma in which I find myself is common among you all. On the one hand we are cautioned that the lesions of the cecum described by Dr. Penick respond well to antibiotics and conservative measures, and in the next instance we are urged to employ early radical surgery to lesions in the same area! I realize full well that some lesions can be recognized and easily diagnosed, in either category. On the other hand I find it sometimes extremely difficult, particularly in the presence of inflammation, to assure myself at the operating table what type of lesion we are dealing with. I find it difficult, furthermore, to open the cecum and carry out a biopsy, the result of which I feel that I can depend upon.

I should like to tell you of a case in which a conservative policy was followed with a happy outcome. It did, however, cause me many anxious moments following operation. This was a case diagnosed preoperatively as acute appendicitis, which was not confirmed at operation. Instead, there was a lesion of the cecum. I felt that I was dealing with an acute inflammatory process of the cecum although I had no confirmation of this. In my experience biopsy of the cecum, which I felt could not be done well at any rate in the presence of acute inflammation, is not an entirely satisfactory procedure. However, as I had been a little suspicious of carcinoma, I decided to get an roentgenogram of the abdomen as early as possible after operation. To my surprise no lesion could be demonstrated as early as four weeks postoperative, which was the earliest I thought it wise to perform a barium study in the presence of an acute ulcerative process. I think it is a difficult problem to know what to do. I should like to ask Dr. Penick whether he finds himself in such a dilemma and, if so, if he sometimes has undertaken a primary resection.

DR. RAWLEY PENICK, JR., New Orleans (closing): I would like to say a few words with regard to the problem Dr. Chenoweth has brought up. It is interesting that in these cases which we have studied there was only one patient in which, at laparotomy, a diagnosis of a tumor was made. In this patient a right colectomy was done. This is a problem and I know we cannot always differentiate at the operating table, but every effort should be made to differentiate carcinoma from inflammatory lesions and if differentiation can be made, then a radical operation is not necessary. We believe that more effort should be made to arrive at a definite diagnosis at the time of operation. There is no doubt that if this is done a high degree of accuracy will be obtained.

DR. HOWARD A. PATTERSON, New York, N. Y. (closing): I would like to thank Dr. Rives, Dr. Graham and Dr. Chenoweth for their kind discussions, and to offer two brief closing comments.

First, we all know that the cecum is difficult to outline distinctly in roentgenogram studies. Even three or four months after drainage of an abscess caused by cecal cancer, the roentgenogram report (on barium enema study) may say that "the appearance is compatible with some residual inflammation," or something like that. We must often rely on clinical suspicion rather than roentgenogram studies to pick out these cases.

The second point has to do with Dr. Chenoweth's statement that he is confused by Dr. Penick's call for conservation when one finds a right lower quadrant inflammatory mass, and my call for a radical approach. I hope that the full text will clarify this. It would, of course, be disastrous if one adopted a policy of resecting all cecums that are indurated in association with acute appendicitis, in the thought that cancer might possibly be present. What I have tried to bring out this morning is that the usual error is just the reverse—failure to realize the presence of a cecal cancer as the cause of the acute inflammation. As usual, correct treatment depends first of all on correct diagnosis.