- Late Results of Various Surgical Procedures. Acta Chir. Scand., 141:804, 1975.
- Inberg, M. V., Havia, T., Davidsson, L. and Salo, M.: Acute Intestinal Volvulus: A Report of 238 Cases. Scand. J. Gastroenterol., 7:209, 1972.
- Kerry, R. L. and Ransom, H. K.: Volvulus of the Colon: Etiology, Diagnosis, and Treatment. Arch. Surg., 99:215, 1969.
- Krippaehne, W. W., Vetto, R. M. and Jenkins, C. C.: Volvulus of the Ascending Colon: A Report of Twenty-two Cases. Am. J. Surg., 114:323, 1967.
- Meyers, J. R., Heifetz, C. J. and Baue, A. E.: Cecal Volvulus: A Lesion Requiring Resection. Arch. Surg., 104:594, 1972.

- Peterson, H.: Volvulus of the Cecum. Ann. Surg., 166:294, 1964.
- Smith, W. R. and Goodwin, J. N.: Cecal Volvulus. Am. J. Surg., 126:215, 1973.
- Weinstein, M.: Volvulus of the Cecum and Ascending Colon. Ann. Surg., 107:248, 1938.
- Wertkin, M. G. and Aufses, A. H., Jr.: Management of Volvulus of the Colon. Dis. Colon Rectum, 21:40, 1978.
- 15. Wolf, R. Y. and Wilson, H.: Emergency Operation for Volvulus of the Cecum: Review of 22 Cases. Am. Surg., 32:96, 1966.
- Wolfer, J. A., Beaton, L. E. and Anson, B. J.: Volvulus of the Cecum: Anatomical Factors in its Etiology: Report of a Case. Surg. Gynecol. Obstet., 74:882, 1942.

## Discussion

DR. Francis C. Nance (New Orleans, Louisiana): This is a very important study, because it's one of the largest in the literature, and as John mentioned at the beginning of his paper, most reports about cecal volvulus are anecdotal. It takes a series like this to draw some conclusions about the therapy that has been performed.

By coincidence, we have made our own review of 41 acute cases of cecal volvulus, and we come to the same conclusion, so I can only say it's a fantastic paper.

Our incidence of complications following eccopexy was 10%; when the bowel was entered by resection or tube eccostomy the incidence of intraperitoneal complications was 35%, so there is a definite difference.

One difference that we don't have similar data on is the simple detorsion. We did have two recurrences after detorsion. John did not have any in his series.

We would emphasize that cecopexy is the treatment of choice for this disease if the cecum is viable.

Dr. Cameron has emphasized that this lesion is difficult to diagnose, and virtually all series report delays in diagnosis. One striking observation in both series is that one-third of the patients are already in the hospital for something else, and the lesion tends to sneak up on you. You are taking care of the patient for something else, and they develop cecal volvulus.

One of the areas that I have had a particular interest in is the small group of patients who have chronic symptoms. I like to call this the floppy cecum syndrome. Every time I mention this in my own institution, I get guffaws and snickers, and accusations of being a quack; but we've seen almost as many patients—in fact, I think, as many patients—with the same syndrome of chronic pain that is spontaneously relieved. When these patients are operated on, they have a cecum that is flopping around in the right lower quadrant

that clearly has been intermittently having volvulus; and these patients are cured by eccopexy.

Now, the problem with this group of patients is making a diagnosis, because most of them have a normal B.E., and I wonder if John would comment on this group of patients, and give us any suggestions on how you can make the diagnosis of chronic cecal volvulus in this group of patients.

DR. CHARLES S. O'MARA (Closing discussion): Complications after cecopexy were not mentioned in the presentation for the sake of time. Perhaps I can point them out here. In those patients without gangrenous changes who underwent cecopexy, there was a complication rate of 17%, as compared to a 75% rate of complications after cecostomy, a 43% incidence of complications in the post-operative period after resection, and 42% after detorsion alone. Taking this data into consideration, as well as factors that Dr. Cameron has mentioned, we feel that cecopexy is the procedure of choice.

About half of the nine patients in our series who presented with chronic symptoms were diagnosed preoperatively on the basis of a mobile cecum on barium enema. The other patients did not, as Dr. Nance has mentioned, have abnormalities on their barium enema, and their diagnosis was made at the time of operation, noting at operation a freely mobile cecum with a long ileocecal mesentery which was frequently edematous and thickened and often had hemorrhages from recent episodes of volvulus.

We would like to reiterate that the diagnosis of cecal volvulus in our series was made preoperatively in less than half of the patients, and also that there was a significant delay in diagnosis in about a fourth of the patients. These factors point out the need for a high index of suspicion in this problem, if early and appropriate management is to be instituted.