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DISCUSSION

DR. KEITH A. KELLY (Rochester, Minnesota): Dr. Coran, I enjoyed your paper and congratulate you on a fine series of 100 consecutive cases of straight ileo-anal anastomosis, that is, an anastomosis made with no ileal pouch. These results are excellent. They are comparable to those of other large series reported recently from around the world. Your patients healed well, they had few complications, good control, and little diarrhea. Only five ended up with a permanent ileostomy.

I have two questions for you. The first is, what about the first 6 months after operation? Did the patients have any problems with troublesome diarrhea or incontinence during this time?

The distal ileum has a small capacity. It only holds about 15 to 30 mL. Dilatation does take place with time. After the first 6 months to 1 year, the patients may then have a satisfactory fecal reservoir. However, at first the distal ileal capacity is small and I would expect your patients to have troublesome diarrhea and some incontinence.

We tried the straight ileo-anal anastomosis in 50 patients at Mayo a few years back, and we did notice that at least in our adult patients, diarrhea and incontinence were present during the first 6 months to 1 year. When we studied these patients in the laboratory, their distal ileal segment was poorly distensible. Moreover, when the segment was distended, the patients had large contractions, which were propulsive and caused leakage. So, Dr. Coran, what about the first 6 months?

The second question relates to ileal 'pouchitis.' I presume what you mean here is that there is no terminal ileitis in the distal ileum anastomosed to the anal canal. You did indicate that you had endoscopic and histologic evidence that that was the case, but you did not show us any of that data.

We found in studying our own patients with the straight pull-through that some of them did have a nonspecific ileitis in the distal ileum. In a few cases with symptomatic distal ileitis, resection of that segment was necessary. Thus, our early data did not allow us to breathe easy about the "pouchitis" question even in the straight ileo-anal patients. Stasis is present in the terminal ileum after ileoanal anastomosis. At least, in the

colitis patients, one might expect in some patients an inflammatory response to this stasis and to the bacterial overgrowth that accompanies it.

DR. HARVEY J. SUGERMAN (Richmond, Virginia): You stated in the abstract that there was no difference in stool frequency when age was used as a criterion. However, in your data of ulcerative colitis and familial polyposis patients, the average number of stools were nine and ten per day. Since the patients with Hirschsprung's disease were excluded from that group, I wonder if there was a statistically significant difference in stool frequency between the Hirschsprung's patients, who had to be very young, and your older patients with ulcerative colitis and familial polyposis, as the average for the entire group was 7.7 stools per day?

DR. ALVIN L. WATNE (Peoria, Illinois): Our group had a small experience in this operation, and Dr. Hrabovsky and I found that the children tolerated the straight ileo-anal pull-through much more readily than the adults. As Dr. Coran implied, the first 6 months is a very difficult adjustment time, and we found that the children tolerated this adaptation time better than the adults. I would appreciate their comments on that division of their patients.

DR. ARNOLD CORAN (Closing discussion): I would like to preface my answers to the specific questions by just stating that the motivation for submitting the paper was that there is a sense around the country, around the world, that the straight endorectal pull-through is inappropriate for adults or even for older children. I wanted to present this data to show that, in fact, it does appear to work reasonably well for both older children and adults.

In response to Dr. Kelly's question, the first 6 months is not as good as the second year. There is no question about it. In general, the stools are around 10 to 12, sometimes to 15, per 24 hours. However, they are continent. It is extremely unusual for them to be incontinent. I don't know whether this relates to the technique that we use for doing the

endorectal dissection or something else, but they are continent. They feel better. The patients with ulcerative colitis are so relieved of their disease by having their colon taken out that, even though that is a fairly significant stool frequency, over-all their lifestyle is much improved and they are happy with the operation. But, in fact, the stool frequency is greater than the number that we see at 2 years or, as I showed in the slide, at 36 months.

The pouchitis question is a legitimate one. We have actually performed biopsies routinely, as I mentioned in my talk, on the ileo-anal anastomosis. There is really no significant ileitis there. Most of the slides come back showing no significant abnormality. Occasionally, very mild inflammation is seen, which is of very little significance histologically and of no significance clinically because none of the patients have had any trouble with pouchitis.

In answer to Dr. Sugerman's question about the Hirschsprung patients, there were ten children with total colonic Hirschsprung's disease. In fact, in that group of ten children, there were four of them who had Hirschsprung's disease extending through the ileum up to the distal jejunum; those patients had their pull-throughs performed just as I described. That

is, they had an ileectomy and colectomy and a jejunio-anal anastomosis. Their average stool frequency is between 3.5 and 5 per 24 hours, a little bit less than the other group, but the number of patients is so small that it didn't have any statistical effect on the stool frequency for the entire group.

In answer to the last question, Dr. Watne's, I think the point I was trying to make was in the stool frequency slides, namely, that age did not make any difference. We analyzed several age groups. I just showed the slide analyzing the groups under and over 18 years of age where there was no difference, but in fact, if you look at the group over and under 30 years of age, a question that may be of more importance to some members of the audience, there were no differences there either. The other interesting finding was that there were no differences, and I didn't expect to find this, between the patients with polyposis and ulcerative colitis. My impression anecdotally was that the familial polyposis patients did better, but, in fact, when we analyzed the numbers, they were the same. That is not consistent with the findings at the Mayo Clinic, where they found the polyposis patients had a lower stool frequency than the ulcerative colitis patients.