LelandSterling McKittrick

1893–1978

Leland McKittrick was born in Thorp, Wisconsin, the eldest son of a town physician. He was reared to follow a similar path after graduating from the University of Wisconsin in 1915 and Harvard Medical School in 1918. McKittrick began his surgical postgraduate training at the University of Minnesota before transferring to the Massachusetts General Hospital as a surgical house pupil on the so-called East Surgical Service. After 18 months in Boston, he began his association with one of the pre-eminent surgeons of the day, Daniel Fiske Jones.

McKittrick's intellectual curiosity led to the development of a diverse surgical practice in vascular disease and gastrointestinal pathology at the Joslin Clinic, Massachusetts General Hospital, and New England Deaconess Hospital. With Chester Jones, the legendary Harvard gastroenterologist, McKittrick introduced a radical surgical alternative to the management of critically ill patients with ulcerative colitis—colectomy concomitant with the standard practice of initial diverting ileostomy. Before this time, surgery for ulcerative colitis was usually accomplished as a four-stage procedure. McKittrick's interest in colorectal surgery was also demonstrated in a number of publications on the side-to-end anastomotic alternative. He was not only a technical master but was an authority on gastrointestinal pathophysiology. In his landmark article, the subject for the "Classics" presentation, he was the first to recognize the electrolyte imbalance and fluid loss associated with villous adenomas of the large bowel.

McKittrick's diverse clinical practice resulted in many contributions to general surgery, including vascular surgery in the diabetic patient. His leadership among his peers resulted in his appointment to the position of Chief of Staff at New England Deaconess Hospital. He was later elected to the Presidencies of the Boston Surgical Society (1950), Massachusetts Medical Society (1950–1951), New England Surgical Society (1963), and the American Surgical Association (1965). An avid athlete, McKittrick retired from surgical practice at the age of 78, pursuing his commitment to tennis, squash, and his family until his death in 1978 at the age of 85.

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No reprints are available.

CARCINOMA OF THE COLON

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B. VILLOUS POLYPS

A rare but interesting lesion is the villous polyp. Here the overgrowth of epithelial cells is very super-
ficial so that many villous projections form and the polyp spreads superficially over a large area. A series of 48 cases were reported by Sunderland in 1948 (34). Here a careful description of the villous character of the growth is given. The area of involved bowel is large and the growth is hard to outline by palpation because it is so soft and superficial. These tumors may occur at any age, turn malignant in a high per cent of cases, and can produce a profuse rectal discharge. They tend to occur in the rectum and in Sunderland’s group only eight of the 48 were above the reach of the finger. Surgical removal usually by resection of the rectum is the only satisfactory treatment both to prevent the formation of carcinoma and to stop the fluid and electrolyte loss which may be very serious. Recently we have seen an elderly patient, described below, who had such profuse discharge (up to 2200 cc a day) that she became acutely and seriously ill of dehydration and electrolyte imbalance.

Case 26 (21): The patient is an 82-year-old widow with a 10-year history of rectal trouble. The onset was a mucous diarrhea found to be due to a huge rectal polyp. In the next two years this was destroyed by 25 electro-desiccations. The symptoms improved for a few years only to recur. Several more attempts at destruction were made a year before entry. The discharge, however, recurred. Prior to admission the patient had several fainting attacks, developed oliguria and extreme weakness.

On admission she was found to be weak and dehydrated. A large rectal polyp was easily felt.

The non-protein nitrogen was 135 and the chloride 71 m. eq./L. The potassium level was recorded as low as 1.32 m. eq./L. With hydration she rapidly improved. Measurements of her fluid loss per rectum ranged between 375 and 2200 cc per day, containing up to 11 grams of sodium chloride.

The suspicion that the dehydration from the discharge and her anemia accounted for her fainting attacks and uremic state was confirmed by the prompt return of the blood chemistries to normal levels by blood and electrolyte replacement. The patient had refused resection of the rectum for years but finally consented. A loop sigmoid colostomy was performed. The patient was much improved following this and withstood the posterior excision of the rectum 11 days later.

We had been unaware that a polyp—even one as large as this which covered 75% of the bowel circumference for a five-inch distance—could produce such a dangerous fluid and electrolyte loss. Figure 6 shows the lesion with its numerous fine villiform projections.

Editor’s Note

Leland S. McKittrick made other singular contributions to the specialty of colorectal surgery. In 1951, he together with Richard Warren of Boston, Massachusetts, made an important contribution to the understanding of the function of the ileostomy. Warren and McKittrick coined the term “ileostomy dysfunction” to describe functional obstruction of the stoma. This followed a critical analysis of stomal function in 240 patients. The syndrome of increased watery discharge, abdominal cramps, and hypovolemia was a sign of intestinal obstruction caused by edema of the unevorted stoma itself. The mechanism of dysfunction was attributed initially to interference of the normal flexibility and peristalsis of the exteriorized ileum by the comparatively rigid abdominal wall. They considered the latest function to be caused by a constricting band of contracting scar tissue that replaced the granulation tissue of the serosa of the exposed ileum, ileostomy. To overcome this, Warren and McKittrick made longitudinal incisions through the indurated seromuscular layers and performed this operation 95