Squamous Cell Carcinoma of the Rectum: Report of a Case Complicating Chronic Ulcerative Colitis

LT. RICHARD M. ZIRKIN, * MC, USNR, LCDR. DON L. MCCORD,** MC, USN

From the Laboratory and Surgical Services, U.S. Naval Hospital, Corpus Christi, Texas

SQUAMOUS Cell carcinoma of the rectum is an unusual condition. Its rarity is illustrated by the fact that all of the 1,000 cases of rectal cancer reviewed by Dukes were adenocarcinoma, with the exception of a few of the mucoid variety.

The purpose of this communication is to report a case of an early invasive squamous cell carcinoma of the rectum, associated with extensive squamous metaplasia, in a patient with a ten-year history of ulcerative colitis.

Case Report

A 34-year-old Caucasian woman was admitted to the United States Naval Hospital on December 3, 1961, for investigation and treatment of ulcerative colitis which was known to have been present for approximately 10 years. Symptoms included frequent loose stools and intermittent small amounts of bleeding. The patient was told she had ulcerative colitis in January 1952, following an operation for a fistula-in-ano. One fistula was incised and another, which was said to be deep to the sphincter muscle, was not incised. The patient had been treated with various types of medication, including sulfa, and was given cortisone in 1954. She had taken steroid agents, in low dosage, continuously since that time. Approximately two weeks prior to admission, she noted backache and increased mucus in the stools. She was seen at another hospital where a biopsy of the rectal mucosa at a 5-cm. level was performed. The pathologist's report indicated that the tissue was probably malignant. Physical examination on admission was within normal limits except for striae on breasts and abdomen, without gross evidence of Cushing's syndrome, a palpable but nontender sigmoid flexure, and minimal varicose veins of the legs.

An x-ray examination of the colon, after administration of a barium enema on December 7, 1961, revealed changes consistent with ulcerative colitis, with scattered areas of pseudopolypoid changes throughout the colon. Laboratory studies were within normal limits. Because of equivocal findings of the biopsy performed at the other hospital, two subsequent biopsies were performed for us on December 4 and December 11, 1961. The first was interpreted as "atypical squamous epithelium" and the second as "carcinoma in situ."

The colon was removed by combined abdominoperineal operation on December 20, 1961. A permanent ileostomy was made in the right lower quadrant. The postoperative course was uneventful and the patient felt relatively well at the time of discharge on January 13, 1962. Later she developed persistent drainage from the perineal wound. The tissue from this area was biopsied on April 4, 1962, with the finding of inflammatory granulation and scar tissue, but there was no evidence of recurrent tumor. At the time of this report, the patient is relatively asymptomatic. She is normally active and has gained approximately 15 pounds since colectomy. She has received no steroid therapy since the immediate postoperative period.

The surgical specimen consisted of the entire colon with 6 cm. of the terminal ileum and appendix (Fig. 1). Received as a separate specimen was the rectal segment with surrounding perianal skin (Fig. 2). The colonic portion showed a marked alteration of the mucosal pattern with loss of the normal folds, deep red injection, and a coarsely granular cobblestone appearance. There were numerous soft, polypoid, fingerlike projections of mucosa in the midportion of the descending colon. The rectal segment showed an area of stricture formation approximately 5 cm. from the anorectal junction. Distal to this site, the mucosa was thickened, pink-gray, and covered by multiple confluent, light gray plaques. No tumor was identified grossly. Microscopic examination of the colonic segment revealed typical changes of chronic ulcerative colitis with a heavy inflammatory reaction, predominantly lymphocytic. In addition, there were numerous small foci of polymorphonuclear cells at the free surface, and at the base of the crypts. The section through the pseudopolyps revealed well-differentiated colonic epithelium. The sections of the rectum showed that most of the surface was covered by nonkeratinized stratified squamous epithelium (Fig. 3). In other sites, however,
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The epithelium appeared markedly atypical, showing increased cellularity, pleomorphism, hyperchromasia and frequent areas of mitotic activity (Figs. 4, 5 and 6). Changes were similar to those noted in carcinoma in situ. In addition, there was thickening of the epithelial layer and minimal keratinization. Additional sections, taken from the areas of most marked change, showed an even greater degree of nuclear pleomorphism with small isolated nests of cells breaking away from the main epithelial mass. These penetrated through the muscularis mucosae and invaded submucosal lymphatics (Fig. 7). There was no invasion of the muscularis mucosae or serosa, and sections of the mesenteric lymph nodes were free of tumor.

Discussion

Relatively few reports of squamous cell or epidermoid carcinoma of either the colon or rectum have appeared in medical literature. Hicks and Cowling cited a case of squamous carcinoma of the ascending colon, diagnosed at autopsy, in a 90-year-old woman. These authors considered several hypotheses concerning the mode of origin of this type of lesion, and concluded that inherent potentialities...