Squamous-cell Carcinoma of the Proximal Colon: Report of a Case and Review of the Literature*


Deviant epithelial tumor types are occasionally reported although the epithelium usually "breeds true," and glandular epithelium generally gives rise to glandular neoplasms, squamous epithelium to squamous-cell tumors and transitional-cell epithelium to transitional-cell tumors. We report a case of an apparently purely squamous carcinoma arising in the right side of the colon, and review previous reports of comparable cases.

Report of a Case

The patient, a 43-year-old man, was admitted in September 1975 with a two-year history of a 42-56-pound weight loss and diarrhea. He complained of tiredness and colicky right-sided abdominal pain, and said he had been having episodes of vomiting for a month. There was no relevant past medical history.

Physical examination revealed that the patient was reasonably fit. The only abnormal physical signs were vague epigastric tenderness, an impacted right colon, and a mass in the right hypochondrium.

Blood study results showed a hemoglobin of 11.7 g/dl and barium studies indicated a possible small duodenal ulcer. The terminal ileum was dilated, and the cecum was loaded with feces and barium which were held up behind a constricting lesion 7.5-10 cm long in the proximal transverse colon.

Laparotomy performed on October 3, 1975 revealed an annular mucosal tumor, 6 cm in maximum diameter.

Histologic examination showed the lesion to be a well-differentiated, keratinizing squamous-cell carcinoma (Fig. 1); the appendix was normal, and no other mucosal lesion was seen.

Staining for keratin and prekeratin by the method described by Ayoub and Shklar yielded positive results. Mucin stains showed no mucin production by tumor cells. No malignant adenomatous component was found in multiple blocks, and mucin stains were negative. Local spread of the tumor involved all layers of the bowel wall; there was moderate extension into the peri-/ticol fat, but the peritoneum was not involved. Examination of 11 regional lymph nodes showed no sign of metastatic growth.

Postoperative convalescence was uneventful, and the patient regained weight. Eleven months later, however, he complained of increasing backache and loss of weight. Roentgenograms of the lumbar spine disclosed no abnormality.

The patient was readmitted 13 months after his operation, because of vomiting, constipation, anorexia, weight loss, and backache. Hemoglobin had decreased to 10.2 g/dl (normochromic anemia).

The erythrocyte sedimentation rate was 66 mm/hr and serum carcinoembryonic antigen was 22 μg/l (normal 2.5 μg/l). Roentgenograms of the chest, intravenous pyelogram, roentgenograms of the spine, and a bone scan were normal. Hepatic imaging revealed impaired radionuclide uptake in the right lobe, indicating a possible secondary deposit.

Lymphangiographic examination on July 29, 1976, revealed obstructed lymphatic channels in the upper abdomen, underfilling of the para-aortic nodes, and large filling defects in the nodes to the right of L4 and the left of L3, indicative of large secondary deposits in the para-aortic chain of lymph nodes.

Towards the end of September 1976, before treatment with palliative radiotherapy to the para-vertebral deposits could begin, bronchopneumonia developed and the patient died. Unfortunately, permission for necropsy was refused, but at no stage had there been any suggestion of a primary tumor other than that in the colon; there was no cutaneous lesion, results of rectal examination and roentgenograms of the chest were normal, and there was no pharyngeal tumor.

Review of Literature

Only 15 cases of squamous-cell colonic carcinoma involving areas other than the rectosigmoid region have been reported (Table 1).7-12 The six cases described by Comer et al.,9 were included in a group of 20, which included cases of adenocanthoma and squamous-cell carcinoma of the rectum. It is impossible to draw conclusions from this heterogeneous group, and this series is therefore excluded from the following discussion.

Areas of involvement described in the other reported series (Table 1) included: cecum, six; ascending colon, three; transverse colon, two, hepatic flexure, descending colon, and sigmoid colon, one each. The case presented is the second reported case of squamous-cell carcinoma arising at the hepatic flexure. Crissman4 reported the other, which he grouped with a case of undifferentiated small-cell...
carcinoma with foci of squamous differentiation, and four cases of adenosquamous carcinoma.

Our patient was also unusual in that he was younger than the other patients, whose ages ranged from 48–90 years.

Macroscopic examination showed penetration of the bowel wall in five cases, including the case we have reported. Initial examination revealed local lymph nodal/metastases in four patients, and hepatic metastases in three.

Microscopic examination of biopsy-specimens in the reported cases revealed both poorly and well differentiated keratinizing squamous-cell carcinoma.

**Discussion**

Balfour reported a case in which he ascribed the apparent squamous appearance of a poorly differentiated adenocarcinoma to squamoid degeneration. He concluded that primary squamous-cell carcinoma does not exist in a form that would satisfy modern histologic criteria.

However, in ours and two previously reported cases, differentiation was good and there were areas of keratinization. Evidence of keratinization is reinforced in the case presented and in that described by Lewis et al. by the positive results of staining reactions for keratin and prekeratin, as described by Ayoub and Shklar. In addition, examination of numerous sections of the tumor from our patient revealed no malignant adenomatous component, and mucin stains showed no mucin secretion by tumor cells. Because colonic squamous-cell carcinomas are so unusual, there is some doubt about whether they are really primary lesions. In our case, permission for postmortem examination was not obtained, and therefore we are uncertain whether the lesion was primary. However, there is strong clinical evidence.