Pathology of Precancerous Lesions of the Colon and Rectum

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Three pathological lesions are known to be followed frequently by cancer of the rectum or colon: (1) benign epithelial tumours; (2) familial intestinal polyposis; and (3) severe long-standing ulcerative colitis.

205 Congress

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337

The close relationship between benign epithelial tumours of the intestine and cancer has been well established by long-term clinical observations; by histological examination of adenomas or villous papillomas removed at operation and unsuspected of malignancy preoperatively; and the occasional finding of remaining portions of a benign tumour at the edge of a typical carcinoma. These facts justify the conclusion that an adenoma or papilloma of the colon or rectum should be regarded as a precancerous lesion.

Familial intestinal polyposis. This is a hereditary disease characterized by the development within the colon and rectum of large numbers of adenomatous tumours. Though rare, more than 60 polyposis families have been collected and investigated, and family pedigrees prepared, at St. Mark's Hospital during the last thirty years. These families now include approximately 1,200 members, 234 of whom are known to have suffered from polyposis, and 167 to have developed intestinal cancer. Evidence that the disease is familial in character is not found in all cases of intestinal polyposis, but when solitary cases and obviously familial cases are compared, no difference is noticeable in the size, number, or distribution of the tumours, nor is there any difference in the age of onset, symptoms, or course of disease. In the solitary cases of polyposis, also, there is a tendency for carcinoma to develop after the same average period of ten to fifteen years, and the average age of death from cancer is approximately the same for both solitary and obviously familial cases.

Observations at St. Mark's Hospital have confirmed that ulcerative colitis predisposes to cancer, particularly when it is severe and long-standing. The average duration of evidence of ulcerative colitis before the onset of cancer was fifteen years. This "latent" period before cancer develops corresponds exactly to that observed in familial intestinal polyposis. Among 120 cases in which colectomy was performed for ulcerative colitis unsuspected cancer was found in 7 (5.8%). The average age of the 120 patients was 42 years.

The present position may be summarized by saying that any patient in whom severe ulcerative colitis has lasted more than ten years has entered a phase of life when intestinal cancer has become a definite risk.