

Mucinous Carcinoma of the Rectum in a 28 Year Old Woman in Saipan

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Abstract

A 28 year old woman on Saipan, without a family history of cancer syndromes, presented with obstruction and rectal bleeding, and was treated with abdominal-perineal resection for a mucinous carcinoma of the rectum. While colonic carcinoma usually occurs in Western countries and in older people, those that do occur in the young are often of the more aggressive mucinous subtype. They typically present at an advanced stage, as did this case, and have a poor prognosis, though recent reports are somewhat more optimistic.

Dietary, environmental, and hereditary factors are implicated in the cause of colonic carcinoma. The outcome depends on the stage (depth of invasion and distant spread), and microscopic subtype.

oped vomiting and crampy abdominal pain.

Physical examination revealed a palpable tumor suggestive of carcinoma about 4cm to 5cm above the anal verge.

Full bloodcount and admission urinalysis were within normal limits, as were chemistry tests including: glucose, BUN, creatinine, electrolytes, total bilirubin, alkaline phosphatase, SGOT and amylase. Chest X-ray was clear.

Sigmoidoscopic biopsy failed to confirm the diagnosis, showing only normal mucosa. The patient subsequently visited the Philippines, where a repeat biopsy again did not yield a diagnosis. On returning to Saipan, a third deeper biopsy finally was read as mucinous carcinoma. On 12/30/88, an abdominal perineal resection of the rectum, as well as total abdominal hysterectomy, sigmoidoscopy, and esophagogastroduodenoscopy were performed.

The patient was discharged on Acetaminophen on the sixth post-operative day after an uneventful course. There was no evidence of recurrence of metastasis at 6 months follow-up.

There was no family history of colonic carcinoma or any of the associated multiple polyposis syndromes.

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Materials and Methods

Introduction

Carcinoma of the colon accounts for over 95% of malignancies of the large bowel, and is believed to have a major environmental and dietary etiologic component. It is often thought of as a disease of affluence, with developing countries having a much lower incidence than North American and Western Europe. Also, it generally peaks in the seventh decade of life, being uncommon in young people unless these have one of the predisposing hereditary syndromes such as polyposis coli. It is against this background we present a recent case of one of the more aggressive variants of colonic carcinoma in a young patient on Saipan.

The fresh specimen consisted of anus, rectum, and sigmoid colon, measuring 25cm in total length by 8cm in average circumference. An almost circumferential, crater-like ulcer was located on a tumor mass measuring approximately 9x5cm in greatest extent, at a level of 2cm above the anal verge. The maximum thickness of the tumor was 2cm. Dissection of the perirectal fat yielded three lymph nodes. The tumor had a glistening, mucoid cut surface. The uterus was grossly unremarkable.

After fixation in 10% neutral buffered formalin, paraffin embedded tissue was cut into 5u thick sections and stained by hematoxylin and eosin.

Case Report

A 28 year old Filipino woman presented in December, 1988, with several months history of constipation and rectal bleeding. Three days before admission she devel-

Results

Microscopic examination showed a mucinous carcinoma of the rectum, characterized by clusters of malignant cells floating in lakes of pale mucin. The latter undermined overlying normal rectal mucosa, splitting the smooth muscle [fibres] of the bowel wall. This observation explained the two previous negative biopsies, since only normal mucosa above the deeper tumor was sam-

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pled. The cancer extended through the full thickness of bowel wall, and involved two of the three lymph nodes (Dukes stage C). However, both proximal, and distal, as well as deep (peri-rectal) surgical resection margins were free of tumor.

Discussion

Carcinoma of the colon is the second commonest cause of cancer deaths in men in the U.S.A. (after lung), and the third commonest in women (after breast and lung). It is also common in Western Europe, Australia, and New Zealand, though with the exception of Japan, which has a low incidence, it is not a high-frequency disease in developing countries. A diet high in fats, high in refined carbohydrates, and low in high-residue fibers is believed to predispose to colonic carcinoma, possibly through altering the bacterial flora and slowing transit time through the intestine. Genetic factors also contribute in the form of several hereditary polyposis syndromes that often result in multifocal colonic cancer at a young age. Additionally, inflammatory bowel disease (ulcerative colitis) is a known predisposing factor.¹

Colonic carcinoma peaks in the seventh decade, and fewer than 20% of cases occur before the age of 50 years. Many of those are probably also accounted for by the familial syndromes.¹

Though uncommon in the young, colonic carcinoma generally has a worse prognosis when it does occur, partly because of the preponderance of the mucinous variety, which is a more aggressive type, and often presents at a more advance stage.² Other rare and aggressive variants of colonic carcinoma are the signet-ring cell type, small cell type, and poorly differentiated type, the latter sometimes developing in long standing ulcerative colitis.

Abusamra, *et al*,³ reported a cancer family syndrome, where, of six colonic cancers, five were in young people, and of these four were of the mucinous variety.

Ochi, *et al*,⁴ described a series of 402 cases of colonic carcinoma, of which five patients were in their 20's. In this latter group of young people, most had a familial history of colorectal cancer, and the commonest histologic types were the signet-ring and the mucinous carcinoma.

Our patient was unusual in that she was young, came from a low-incidence group, and lacked a family history of colonic cancer, or other familial cancer syndrome. However, the finding of a mucinous variant of the cancer was consistent with most literature reports of colonic cancer in the young.

The prognosis of colonic cancer depends primarily on the depth of bowel wall involvement, the presence of regional lymph node metastases, and of blood-borne distant spread to other organs. These factors are collectively referred to as the stage, and often expressed in the Dukes staging system. Other factors are the histologic (microscopic) type and degree of differentiation. One reason that the mucinous carcinoma has an aggressive course is that the mucin dissecting between tissue planes facilitates local spread.

Overall five-year survival for all stages of colonic cancer varies between 35% to 49%, with mucinous carcinoma in young people having a considerably poorer outcome. It is interesting to note that Baquet and Ringer,⁵ found a lower 5-year survival rate (41%) in Filipinos than in

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Caucasians or Hawaiians (51%). However, to end on a bright note, Beckman, *et al*,⁶ reported a series of 69 young patients, aged 20 to 39, of whom 28% had the mucinous variety of colonic cancer, showing a considerably better prognosis. Of their patients, 59% lived over 5 years, and 51% were considered cured.

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