Mixed Juvenile and Adenomatous Polyposis of Colon: A Clinical Appraisal

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Abstract

Three young patients of polyposis coli (one with a familial variety) showing mixed adenomatous and juvenile polyps in two cases and juvenile polyps with focal adenomatous changes, severe dysplasia and carcinoma in situ in one case, were seen over two years.

This entity is being increasingly recognised; its biological behaviour being yet uncertain, its surgical management remains to be defined.

Key words: Mixed adenomatous-juvenile polyps, focal dysplasia.

Introduction

Various syndromes of colonic polyposis of adenomatous or adeno-villous varieties are well known to progress to frank colonic cancer, and prophylactic treatment modalities for familial and non-familial adenomatous polyps have been defined. Juvenile polyps, on the other hand, have long been considered to be of no malignant potential.

Since 1971, there has been an increasing awareness of a syndrome where juvenile and adenomatous polyps of the gastrointestinal tract coexist or juvenile polyps show focal adenomatous changes. Theoretically these changes confer a high risk of developing carcinoma. The biological behaviour of adenomatous changes is, however, not yet defined.

We report three such cases, seen at our Institute over the last two years.

Case Reports

Case 1: A 12 years old male child, was admitted with a history of rectal bleeding and lower abdominal colic for a duration of 6 weeks. There had been no remarkable past or family history. Examination revealed anaemia, clubbing and pignon chest. Proctosigmoidoscopy showed multiple sessile and pedunculated polyps with smooth, glistening, lobulated surface, varying in size from 0.2 cm to 3.5 cm. A double contrast barium enema showed polyps from the anal verge up to the cecum.

Sigmoidoscopic biopsy of a 3 cm x 2 cm polyp showed few cytologically distorted crypts, excess squamous to gland ratio and superficial ulceration, suggesting a diagnosis of juvenile polyp.

After correction of anaemia, segmental resection of the right transverse and proximal descending colon (barring maximum polyps) was done and polyps were excised through multiple colectomies. The pedunculated polyps histologically showed a subepithelial pattern of glands separated by variable amount of lamina propria. The sessile polyps in addition revealed severe dysplasia with changes of carcinoma in situ. Multiple sections of other polyps showed typical histology of juvenile or retention polyps.

Postoperatively, he presented again with rectal bleed two weeks later. A subtotal colectomy was then done.

Case 2: NK, a 15 year old female, presented with rectal bleeding and diarrhea of 7 years' duration. There was no family history of colonic carcinoma. Examination revealed anaemia and colonoendoscopy and bilateral colonoscopy showed polypoid and sessile polyps, ranging in size from 0.5 cm to 3.0 cm, all over the colon. Sigmoidoscopic biopsy showed characteristic features of juvenile polyp.

Multiple fiberoptic colonoscopy sparing of polyps over one year failed to relieve the symptoms and she underwent polypec- tomies through multiple colonoscopies along the train. About 30 polyps were excised; the bases of these were either fulgurated or excised. Biopsy of the polyps suggested a diagnosis of juvenile polyps with focal adenomatous changes.

One year later, she was free of symptoms and repeat colonoscopy revealed 10-12 polyps of less than one cm size.

Case 3: HS, a 15 year old male, presented with rectal bleeding of one and a half years' duration, with multiple colic and anaemia. His grandfather had expired of colon carcinoma at the age of 49 years, and two weeks prior to this admission, his 13 year old sister expired of recurrent massive rectal bleeding.

Examination revealed anaemia and perianal deformity. Proctosigmoidoscopy and double contrast barium enema study showed colonic polyps 0.2 cm to 1.5 cm in size, from the anorectum to the cecum. Upper gastrointestinal series was normal.

Biopsy showed increased lamina propria, occasional crypts showing hyperplasia and enlargement of nuclei (Fig). Cyctic dilatation and glandular proliferation were striking in other focus. Thus it was categorised as a juvenile polyp with focal adenomatous changes.

In view of the massive bleeding; strong family history, focal adenomatous changes and our earlier experience of conservative approach with the other two cases, he was subjected to colectomy, mesocolic resection, iliac reservoir and iliac-rectal anastomosis. Defunctioning ileostomy was closed twelve weeks later and on follow-up the ileostomy is satisfactory and the patient is doing well.

Discussion

Juvenile polyps per se have no malignant potential. However, there have been various reports of juvenile polyposis associated with carcinoma of the rectum and colon. In a few cases of juvenile polyposis, atypical adenomatous features have been reported. Since Koucharles first reported a combination of adenomatous and juvenile polyps in a 11 year old girl, there have been isolated case reports of this combination occurring in the large and small intestines and the stomach.

Dysplastic glandular element has been demonstrated in juvenile polyps. In addition, in situ carcinoma, as in one of our cases, has been reported earlier. Good-
Large colorectal varices may also be demonstrated by double contrast barium enema as polypoid filling defects. However, insufflation of air or the rectal balloon may compress and obliterate the varices.

Procedures used for the management of bleeding rectal varices include hemicolectomy, portacaval shunt, ligation, cryosurgery and sclerotherapy. The last three are the preferred modalities.1

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Adenocarcinoma of the Colon in a Child

Sir,

Carcinoma of the colon is extremely uncommon in children under 10 years, only about 10 cases having been reported in world literature. Herein we report this condition in a six year old child.

A six year old anemic boy was admitted for recurrent episodes of intestinal obstruction, a soft to firm abdominal lump in the left iliac fossa, and passage of bloody stool for the last 20 days. X-ray abdomen and barium enema examination were inconclusive. Exploratory laparotomy revealed a solid tumor at the rectosigmoid junction, with an adjacent enlarged lymph node. Primary resection and anastomosis with wide margins complemented with definitive left colectomy was performed. On histology, a diagnosis of well differentiated mucin secreting adenocarcinoma with metastasis in the lymph node (Fig) was established.

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**Fig:** Microsection from the lymph node shows metastatic adenocarcinoma (H & E X 100).

The child was put on five cycles of intravenous 5-fluorouracil and mitomycin C. Colonoscopic biopsy of the anastomotic site performed after 18 months showed no recurrence. The child, however, died soon after.

Adenocarcinomas of the colon arises in precancerous conditions like ulcerative colitis, familial polyposis and multiple polyposis in only about 10% of cases; in the rest the etiology remains obscure. In children, the anatomic distribution as well as the findings on physical and roentgenographic examinations are similar to those in adults.3 Pathologically about 50% of childhood cases are against 5% in adults have mucin secreting carcinoma.4 This, along with other factors like generally delayed recognition and potential for rapid growth, account for a worse prognosis in children, the overall 5-year survival rate being about 2-5%.2

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