

Distal Colorectal Polyp as a Predictive Sign of Proximal Polyp

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Abstract

Background: Currently there are conflicts about the prevalence of proximal colorectal polyp/s among patients with distal colorectal polyp/s discovered by sigmoidoscopy.

Design: A retrospective study.

Setting: Gastroenterology and Hepatology Teaching Hospital –Baghdad –Iraq.

Patients and methods: During the study period (1st of August-2003 to 31 of December -2004) all patients who underwent total colonoscopy procedure were involved in this study. Out of patients with different polyps, 96 patients were included when they did not have the Exclusion criteria.

Results: This study included ninety-six patients, (Male= 67(69.8%), Female= 29(30.2%)) mean age of patients 51.5 year. Forty two (62.7%) of male patients had distal colorectal polyp (CRP), 30.9 %(13 of 42) had proximal one (combined), while in female patients 21 patients had distal CRP, 14.3% (3 of 21) had combined CRP. For adult patients with distal CRP, 26.8% (11 of 41) had combined CRP, all pediatric patients had distal CRP, and 22.7% of them had combined CRP. Seven (14.6%) patients with distal single CRP had combined one, while in patients with multiple CRP, 60 %(9 of 15) of patients with distal multiple CRP had combined one. With regard to the size of polyps, 26 %(13 of 50) of patients with distal small CRP (<1cm) had combined one, while in those patients who had distal CRP \geq 1 cm, 23.1 %(3 of 13) had combined one, 32.3 %(10 of 31) of patients with distal neoplastic CRP had combined one, while in patients with distal non- Neoplastic CRP, 18.8%(6 of 32) had combined CRP.

Conclusions and recommendations:

1. All patients with distal colorectal polyp/s discovered during sigmoidoscopy should undergo total colonoscopy.
2. Colonoscopy should be used as a screening procedure instead of sigmoidoscopy.
3. Sigmoidoscopy can be used as a screening procedure in pediatric patients

Introduction

Polyps are mucosal projections in to the lumen of bowel and may be sessile or pedunculated ^(1,2,3,4). In the colon ,polyps may be single or multiple ,sporadic or part of an inherited syndrome ^(2,3,4). There are many types of colorectal polyp, which cannot be reliably distinguished macroscopically ,so polypectomy and histology are always indicated^(2,3,4). Colonic polyps are divided into two major groups; ; Neoplastic

(Adenomas and Carcinomas) and non-neoplastic. Adenomas include tubular, tubulovillous, and villous adenomas. Non-Neoplastic polyp which includes hyperplastic, mucosal, juvenile, peutz-Jeghers, and inflammatory polyps ^(2, 5). Several studies have shown that screening for colorectal cancer by fecal occult blood test and lower endoscopy with removal of polyps reduces the mortality rate associated with colorectal cancer ^(6, 7, 8).

One of the recommended methods of screening low-risk patients for colorectal cancer is the use of flexible sigmoidoscopy to detect neoplastic (adenomatous or cancerous) polyps. Flexible sigmoidoscopy is simple to perform, well tolerated by patients, and less expensive than colonoscopy^(9, 10). Many studies have shown that patients with adenomatous polyps in the distal colon are at increased risk for adenomatous polyps in the proximal colon^(9,10). Thus, it is an accepted practice to recommend a full colonoscopy with examination of the proximal colon for all patients with adenomas in the distal colon. As data have accumulated on screening low-risk patients with flexible sigmoidoscopy, some investigators have noted a low prevalence (0.0%-0.8%) of histologically advanced polyps in the proximal colon among patients with small distal tubular adenomas^(9,11). Two other retrospective studies suggested that the long-term risk for colon cancer in the proximal colon among patients with small polyps in the distal colon is low^(12,13). Other investigators reported higher rates of advanced polyps in the proximal colon among patients with small distal adenomas but this study included patients who had small tubular and villous adenomas on flexible sigmoidoscopy⁽¹⁴⁾. In a retrospective study of predominantly asymptomatic people with diminutive adenomas found on flexible sigmoidoscopy, full colonoscopy identified a synchronous proximal adenoma in only 33% of subjects, and most of the proximal lesions were also 5 mm or less. The likelihood of finding proximal adenomas is greater when the distal polyp is greater than 5mm⁽²⁾. Thus estimates of the prevalence of advanced proximal polyps among patients with small adenomas detected by flexible sigmoidoscopy currently

is a conflict (14).

Aim of the study

To identify the temporal relation between polyp/polyps in distal colon and polyp/polyps in the proximal colon according to age and gender of patients and size, number, and histopathological type of polyps.

Patients and methods

It is a retrospective study carried out at Gastroenterology and Hepatology teaching hospital –Baghdad-Iraq. During the study period (1st of August-2003 to 31 of December -2004) all patients who underwent total colonoscopy procedure were involved in this study if they fulfilled the including criteria of the study. The indications for colonoscopy were bleeding per rectum (BPR), abdominal pain, constipation, weight loss, diarrhea, and altered bowel motion.

Out of patients with different polyps 96 patients were included when they did not have the following criteria (Exclusion criteria).

1. Patients who have inflammatory bowel disease
2. Patients who have familial polyposis coli.
3. Patients who have colorectal malignancy
4. Patients underwent surgical resection of bowel
5. Unprepared patients during colonoscopy
6. Patients with only sigmoidoscopic examination

Polyp were identified endoscopically as any localized elevation above the surface of the intestinal mucosa (15). Size of polyp was determined using biopsy forceps (0.5 cm) and it is divided into two groups <1cm, ≥1cm (2). Biopsy was taken for histopathological study either by forceps biopsy or whole polyp by polypectomy.

Results

This study included ninety-six patients, (Male= 67(69.8%), Female= 29(30.2%)) mean age of patients 51.5 year. Forty two (62.7%) of male patients had distal CRP, 30.9% of those patients with distal CRP had proximal one (combined), while in female patients 21 patients had distal CRP ,14.3% of them (3 of 21)had combined CRP. Thirty seven percent of male patients had proximal CRP, while 27.6 % of female patients had proximal CRP. Table (1).

Seventy four patients (77.1%) were adult (Mean age 53.5years) and 22 (22.9%) pediatric (Mean age 6.7years).

Forty one (55.4%) adult patients had distal CRP, 26.8% of them (11 of 41) associated with proximal polyp/s (combined), all pediatric patients had distal CRP, 22.7% of them (5 of 22) associated with proximal one (combined).Table (2).

Seventy five patients had single CRP, sixty four percent (48 of 75) had distal CRP, and 14.6% of them (7 of 48) had combined CRP.

Thirty six percent of patients with single CRP had proximal CRP, while in patients with multiple CRP, 71.4% (15 of 21) had distal CRP, 60%(9 of 15) had combined CRP, 28.6%(6 of 21) patients had proximal CRP .Table (3).

With regard to the size of polyps 72 patients had CRP < 1 cm, 50 patients had distal CRP, 26%(13 of 50) of them had combined CRP, and 30.6% (22 of 72) patients had proximal CRP, while in those patients who had CRP \geq 1 cm 13(54.2%) patients had distal CRP, 23.1%(3 of 13) of them had combined CRP, and 45.8%(11 of 24) had proximal CRP .Table (4).

Fifty five patients had Neoplastic CRP, thirty one patients had distal CRP, 32.3 %(10 of 31) of them had combined CRP, and 43.6%(24 of 55) of patients had proximal CRP, while in patients with non- Neoplastic CRP, 32 patients had distal CRP, 18.8%(6 of 32) of them had combined CRP, and 22% (9 of 41) of patients had proximal CRP .Table (5).

Tables

Table (1) Distribution of colorectal polyp according to gender of patients

Gander	Total	Distal	Combined	Proximal
Male No. (%)	67(69.8)	42(62.7)	13 of 42(30.9)	25(37.3)
Female No.(%)	29 (30.2)	21(72.4)	3 of 21(14.3)	8(27.6)
Total	96	63(65.6)	16 of 63(25.4)	33(34.4)

Table (2) Distribution of colorectal polyps according to age group

Age group	Total	Distal	Combined	Proximal
Pediatric No. (%)	22	22 of 22(100)	5 of 22 (22.7)	0
Adult No. (%)	74	41 of 74(55.4)	11 of 41 (26.8)	33 of 74(44.6)
Total	96	63	16	33

Table (3) Distribution of colorectal polyp according to number of polyps

Number of CRP	Total	Distal	Combined	Proximal
Single No. (%)	75(78)	48(64)	7 of 48 (14.6)	27(36)
MultipleNo. (%)	21(22)	15(71.4)	9 of 15 (60)	6(28.6)
Total	96	63	16	33

Table (4) Distribution of colorectal polyp according to the size of polyp

Size of CRP	Total	Distal	Combined	Proximal
< 1cm No. (%)	72	50(69.4)	13 of 50 (26)	22(30.6)
≥1 cm N0. (%)	24	13(54.2)	3 of 13 (23.1)	11(45.8)
Total	96	63	16	33

Table (5) Distribution of colorectal polyp according histopathological type

Histopathological type of CRP	Total	Distal	Combined	Proximal
Neoplastic No. (%)	55	31(56.4)	10 of 31(32.3)	24(43.6)
Non-Neoplastic No. (%)	41	32(78)	6 of 32(18.8)	9(22)
Total	96	63	16	33

Discussion

The accuracy of estimating polyp size is imperfect and polyp size is consistently underestimated⁽¹⁶⁾. This study used an open biopsy forceps placed adjacent to the polyp. Other methods, such as direct measurement of polyp size at the bedside immediately after removal or after fixation by the pathologist, are also inaccurate⁽¹⁷⁾. Although more accurate endoscopic measuring tools have been used in research studies, they are not widely available (18). This study showed that 25.4% of patients with distal CRP had proximal CRP and 34.4% of all patients had proximal CRP. Two third of patients had single CRP, 14.6% of them associated with proximal polyp/s, while in those patients with multiple CRP 71.4% had distal CRP,

60% of them associated with proximal one. This study is inconsistent with Collett J. A. et al who concludes that the risk of proximal colonic neoplasia appeared independent of distal lesion size, Number and morphology (19).

Pillai-RB et al found a single polyp was presented in 50\77 (64%) of patients and 35.1% had multiple polyps, in 83.1% of patients polyps were located in the rectosigmoid area and in 32.5% of patients polyps located proximal to the sigmoid colon (20).

This study is consistent with Liu Hui-Hsiung H et al who concluded that although distal lesions are predicted the risk of advanced proximal polyps; a substantial portion of Chinese with advance proximal polyps did not associated with any distal lesions⁽²¹⁾.

This study showed that all pediatric patients had distal CRP, 22.7% of them associated with proximal one. This is partially consistent with Waitayakul-S et al who conclude that most of the children with colorectal polyp had juvenile polyp that was commonly found in the rectosigmoid colon. However, a significant number of patients had carrying polyps proximal to the rectosigmoid region, which would be easily missed by sigmoidoscopy but he included patients with polyposis coli and this is the difference between the two studies⁽²²⁾.

This study showed that most of patients had small CRP, 26% of small distal CRP associated with proximal polyp/s while in those patients who had distal polyps ≥ 1 cm, 23.1% of them associated with proximal one.

This study consistent with H.S. Copper who found that vast majority of neoplastic polyps are small (<1 cm)⁽²³⁾.

Linares-Santiago found that 55.1% of polyps removed were smaller than 1 cm, 26.5% were between 1-2 cm and 18.4% were between 2-7 cm⁽²⁴⁾.

Most of patients had neoplastic polyp, 32.3% of patients with distal neoplastic polyps associated with proximal polyp/s. 42.9% of patients had non-neoplastic CRP, seventy eight percent of them had distal CRP and 18.8% of those patients with distal non neoplastic CRP had associated with proximal one.

Gondal et al found that the risk of proximal advanced neoplasm increased more than threefold in the presence of a distal adenoma in measuring ≥ 10 mm or containing villous components (25). Multiplicity of distal adenomas, severe dysplasia, age ≥ 60 years increased the risk of proximal advanced neoplasm by more than twofold. In the multivariate model, the presence of a distal adenoma ≥ 10 mm, villousness, and multiplicity maintained their significance as predictive variables for increased risk of proximal neoplasms, whereas sex and severe dysplasia lost their significance (25).

This study consistent with Al-Khalidi et al study who found that In Iraqi patients adenomatous polyps were the most common CRP⁽²⁶⁾.

H.S. Copper found that adenomas are extremely common in the adult population in the western ward (60%)⁽²³⁾.

This study inconsistent with Collett J.A. et al who found that adenomatous polyps were found in 17% of screening flexible sigmoidoscopy, at colonoscopy, up to 30% of subjects with distal colonic neoplasms had synchronous proximal lesions at colonoscopy and up to 20% had advanced proximal lesions⁽¹⁹⁾.

This study inconsistent with Linares-Santiago-E et al, who found that 90.2% of polyps were adenomas, 75% of adenomas were located in the left colon and rectum and 25% in right colon⁽²⁴⁾.

This study consistent with K.N. Syrgos⁽²⁷⁾, Gryska PV, Cohen AM⁽²⁸⁾, and Baker JW et al⁽²⁹⁾ who found that one third of adenomas were located beyond the reach of the flexible sigmoidoscopy.

Several authors have argued that patients with no adenomatous polyps or hyperplastic polyps are at low risk for proximal adenomas and are therefore unlikely to benefit from colonoscopy (30,31). In this study we found that 43.6% of patients with neoplastic polyps had proximal CRP not associated with distal lesion, this is consistent with study in China by Liu Hui-Hsiung H et al who conclude that although distal lesions are predict the risk of advanced proximal polyps, a substantial portion of Chinese with advanced proximal polyps is not associated with any distal sentinel lesions (21).

Conclusions and recommendations

1. All patients with distal colorectal polyp/s discovered during sigmoidoscopy should undergo total colonoscopy.
2. Colonoscopy should be used as a screening procedure instead of sigmoidoscopy.

3. Sigmoidoscopy can be used as a screening procedure in pediatric patients.

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