Prevalence of Colonic Polyps among Egyptians, Retrospective Study

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Abstract: Aim: the development from premalignant adenoma to invasive cancer is a long term, multiple-step process, which makes the disease preventable. Our aim is studying the prevalence of colorectal polyps and colorectal carcinoma (CRC) in the Egyptian population and their distribution throughout the colon. **Patients and methods:** a retrospective review of the lower GIT endoscopy performed for 2613 patients attended to the gastrointestinal endoscopy unit. **Results:** showed that the number of polyps is greater in the left side of colon (n=234) than that of the right side (n=101) and this difference is statistically significant with *p*-value=0.0001. However, malignant polyps were significantly higher in number in the right side of colon (27.7%) versus (12.4%) in the left side with *p*-value=0.0006. A statistical significance was also found between polyps and age, family history and smoking. **I**n our study the commonest site for colonic polyps was in the rectosigmoid region while the prevalence of the malignant polyps was higher proximal to the splenic flexure. **Conclusion:** Full endoscopic examination of the colon is recommended in the colorectal cancers screening.

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1. Introduction

A polyp is a protrusion from the colonic mucosal surface that carries a small risk of transformation to malignancy (<1%)[1]. The development from premalignant adenoma to invasive cancer is a long term, multiple-step process, which makes the disease preventable. Moreover, if the disease is detected in an early stage, curative treatment is possible.

There is increasing evidence, although mostly restricted to observational studies, that lower GI endoscopy has the potential to prevent a large proportion of incident cases and deaths from Colon Rectal Carcinoma (CRC) through detection and removal of precancerous lesions and early cancers[2 - 8].

This research aimed at studying the prevalence of colorectal polyps and CRC in the Egyptian population and their distribution throughout the colon.

2. Patients and methods:

This retrospective study was conducted after the approval of the local ethical committee, where the data of 2613 patients attending to the gastrointestinal endoscopy unit of the National Liver Institute and kasr Al-Aini hospitals during the period from 2006 to 2010 were extracted from the medical database of the endoscopy unit and reviewed. Colonoscopic examination was done after adequate patient preparation where the patients had to drink 36 sachets of magnesium citrate (Epimag®) over the one and half day prior to colonoscopy with fluid diet for two days before the procedure in addition of performing two enemas in the same day of examination. Histopathological examination of the excised or biopsied polyps was performed.

3. Statistical methods:

All patients' data were tabulated using Excel XP spreadsheets. Data have been processed by SPSS (Statistical package for Science and Society) version 10 for Windows XP. Chi-square was the test of proportion independence for non-parametric (qualitative) data. *P* value is significant at 0.05.

4. Results:

Our study was conducted on 2613 patients (1595 males), their ages ranged between 20 and 86 years with a mean age of 56.64±24.65 years. Data of the full colonoscopic examination was extracted and the results are represented in table (1). Colorectal cancer was reported in 230 (8.8%) patients, while Polyps were found in 250 patients (9.6%), with no statistically significant difference regarding the prevalence of polyps in both males (9.4%) and females (9.8%) with *p*-value =0.7. However, e polyps were significantly highly prevalent in those aged above or equal to 50 years in both sexes with *p*-value =0.001, date are represented in table (4), biopsies

were pathologically examined -represented in table (3)- where the most prevalent type was hyperplastic polyp and it was reported in 120 patients (35.8%). The polyps were distributed in several segments of the examined colons but were highly prevalent in the sigmoid colon 33.5%. Our results revealed that the number of polyps is greater in the left side of colon (n=234) than that of the right side (n=101) and this difference is statistically significant with *p*-value =0.001 but with a significantly greater percentage of malignant polyps in the right side colon (27.7%) versus (12.4%) in the left side (*p* –value =0.0006). Regarding the anatomical sites, it was reported that the percentage of adenomatous polyp is significantly higher in the right side & transverse colon (61.3%) than that of the left side of colon (39.7%) and this difference is statistically significant with *p* - value=0.00, results are represented in table (2).

Only 14% of our studied group *(i.e.: patients with colonic polyps)* had a positive family history for colorectal polyps or cancers. It was reported that the highest percent of diagnosed polyps was reported in those who were requested screening by colonoscopy (p-value< 0.0001), (Table 4).

Table (1): symptoms and colonoscopic findings of the studied group:

Presenting symptoms	No.	%
Screening	230	8.8
Abdominal pain	915	35
Blood loss	696	26.6
Altered bowel habits	512	19.6
Weight loss	232	8.9
Others	28	1.1

Table (2): Distribution of the excised or biopsied polyps:

Distribution :	No.	%
Rectal	74	22
Sigmoid	112	33.5
Descending colon	48	14.4
Transverse colon	39	11.6
Ascending colon	38	11.3
Caecum	24	7.2

Table (3): Histopathological examination results:

Hyperplastic	120	35.8
Mixed adenomatous and hyperplastic	97	29
Malignant	57	17
Tubulovillous adenoma	52	15.5
Tubular	5	1.5
Villous	1	0.3
Others	3	0.9

Table (4): Demographic results:

	No.	%	p-value
Sex male < 50y >50y	45 105	2.8 6.6	0.001
Female <50y >50y	21 79	2 7.7	0.001
Family history +/-	35/215	14/86	< 0.0001
Smoking +/-	79/171	31.6/68.4	0.001
Malignant polyp Left side of colon (Malignant/Total polyps) Right side of colon (Malignant/Total polyps)	 29/234 28/101	 12.427.7	 0.003
Adenomatous polyp Left side of colon Right side of colon	 93 62	 39.7 61.3	0.000

5. Discussion:

The prevalence of polyps increases with age. More than 30% of autopsies performed in people older than 60 years show polyps[9] this is in agreement with our study where the polyps were significantly prevalent in those above 50 years.

Histologically, there are 3 major groups of polyps: neoplastic (adenomatous), non-neoplastic polyps (hyperplastic polyps, hamartomas and lymphoid aggregates), and inflammatory polyps[10].

Neoplastic polyps (adenomatous) are the most common type of polyps found in the colon (60%–70%)[11]. While in our study 35.8% of the biopsied polyps were hyperplastic, followed by mixed adenomatous and hyperpalstic polyps in 29%. The clinical significance of identifying an adenoma is its malignant potential and may develop into cancer[11].

Many studies were carried out to find the prevalence of colorectal polyps and cancer in the Egyptian population where Thakeb *et al.* [12], reported colorectal polyps in 13.8% and CRC in 8.39% of the examined cases, on other hand, Tarik *et al.* [13] reported colorectal polyps in 18.9% of the examined patients, while in our study colorectal polyps were reported in 9.6% and colorectal carcinoma was reported in 8.8% of our studied group. However, the methodology was different and our study was not only based on screening but also on complaining individuals who presented to what is considered a tertiary care facility.

The incidence of the colonic polyps was higher in the left sided colon and the incidence of CRC was higher in the right sided colon[14] and in another study it was reported that most CRCs are adenocarcinomas and about two-thirds of them occur in the rectum, rectosigmoid, or sigmoid [15-16] in our study the commonest site for colonic polyps was in the rectosigmoid region while the prevalence of the malignant polyps was higher proximal to the splenic flexure, So in view of these results, sigmoidoscopy is

not effective in colorectal cancers screening and colonscopy should be the preferred method.

Sporadic colon cancers account for about 80% of CRCs and the rest are attributed to inherited syndromes[17] in agreement with our study where a positive family history was reported in only 14% of the studied group, but it should be noted that the lack of medical awareness among Egyptians regarding family history, lack of national policy for CRC screening and different natures and types of colonic troubles limits the proper judgment concerning the family history as a risk factor for colorectal polyps.

6. Conclusion:

Colorectal polyps are more prevalent in left sided colon, while colorectal cancers are more prevalent in the right sided colon, sigmoidoscopy is not effective in colorectal cancers screening and colonscopy should be the preferred method.

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