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Colorectal Polyps in Sharkyia, Egypt: Clinico-Pathological Study of Our Experience with Endoscopy

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In the present study, manifestation, location, histopathological features and complications of endoscopic excision of different colorectal polyps were studied. Data were collected prospectively during colonoscopic examination performed on 592 subjects in Endoscopy Units, Zagazig University Hospitals, Sharkyia, Egypt. The study was performed from April 2003 till July 2007. Colorectal polyps were found in 112 patients (18.9%). Sixty patients (53.6%) were males and 52 patients (46.4%) were females. The age of the patients ranged from 3.5 to 68 years. Seventy one patients (63.4%) were children and adolescents. Bleeding per rectum presented in 84 patients (75%), hypochromic microcytic anaemia in 5 patients (4.5%) and bowel disturbances in 20 patients (17.8%). Screening colonoscopy was performed on 3 patients (2.7%). Polyps were located in the proximal colon in 23 patients (20.5%), distal colon in 83 patients (74.1%) and diffuse involvement in 6 patients (5.35%). One patient (0.89%) had bleeding after polypectomy necessitating admission and blood transfusion. Fifty three patients (48.2%) had juvenile polyps, 22 (20%) had adenomatous polyps, 20 (18.2%) had inflammatory polyps, 5 (4.5%) had bilharzial polyps, 4 (3.6%) had pseudopolyps of ulcerative colitis, 3 (2.7%) had familial polyposis coli, one (0.9%) had malignancy inside adenomatous polyp, one (0.9%) was associated with rectal prolapse and one (0.9%) was associated with sutures of previous operation of rectal prolapse. Histopathological specimens were not available in 2 patients. We concluded that juvenile polyps were the most frequent polyps in our study. Also the low number of bilharzial polyps points to the decreasing prevalence of bilharziasis in Egypt nowadays. As well as Polyps are located mainly in the distal colon and endoscopic polypectomy had few complications.

Key words: Colorectal, polyps, juvenile, Sharkyia, Egypt, Bilharzial

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INTRODUCTION

The polyp is a focal mass that projects from the wall into the lumen (Radovic, 2002). Polypoid lesions of the large bowel are normally classified into three main subgroups: epithelial polyps, subclassified into neoplastic polyps (consisting of adenomas or carcinomas) and non neoplastic polyps (consisting of mucosal, hyperplastic, inflammatory and hamartomatous polyps); and submucosal lesions Bilharzial polyps were frequently found in Egypt (Young and Macrae, 2003). The lack of published data, to our knowledge, prompted us to report our experience on the yield of colonoscopy in colorectal polyps in Sharkyia Governorate. The aim of this study is to determine various features of colorectal polyps and to evaluate the safety of colonoscopic polypectomy.

MATERIALS AND METHODS

Data were collected prospectively during colonoscopic examinations performed on 592 subjects in Endoscopy Units, Zagazig University Hospitals, Sharkyia Governorate, in collaboration with Pediatric Department, NRC, Egypt. Sharkyia Governorate, one of Governorates of East Delta, lies geographically 80 km from Cairo, Egypt with a population approximately 5 millions. The majority of whom are farmers and workers. Sharkyia is divided into 15 centers with 15 central and general hospitals in addition to Zagazig university hospitals and healthy insurance hospitals. Bilharziasis was endemic in Sharkyia. The study was performed from April 2003 to July 2007. After a well informed consent, full history, physical examination and record keeping were performed. Pentax video colonoscopes were used. Patients were prepared by oral fluids for 1-3 days before the procedures. Mannitol orally was given the day before the procedure (cup every hour from 3 pm). Enema at the night before the procedure and at morning. In the day of the procedure; the patients were fasting. Mannitol was replaced by castor oil when polypectomy was needed. Some pediatric patients were prepared by only morning enema and fasting.

The locations of the polyps were recorded. The distal colon was defined as the rectum, sigmoid and descending colon, while the proximal colon was the splenic flexure and more proximal portions of the colon.

The procedure was performed usually under sedation with midazolam and pethidine after standard colon preparation. Information retrieved including age at presentation, sex, clinical notes of colonoscopy and histopathology reports were verified. Data were analyzed using simple descriptive statistics.

RESULTS

Five hundred and ninety two colonoscopy procedures were performed. Colorectal polyps were found in 112 patients (18.9%). Among the 112 patients with polyps, 60 patients (53.6%) were males and 52 patients (46.4%) were females. The age of patients ranged from 3.5 years to 68 years. Seventy one patients (63.4%) were children and adolescents. Forty one patients (36.6%) were adults (age >18 years).

Presenting complaints were bleeding per rectum in 84 patients (75%), hypochromic microcytic anaemia in 5 patients (4.5%), bowel disturbances in 20 patients (17.85%), screening colonoscopy in 2 relatives (1.79%) of patients with Familial Polyposis Syndrome (FPS) and screening colonoscopy in one patient (0.89%) with lymphoma on chemotherapy.

Polyps were removed in most patients. Polyps in 2 patients (1.79%) with familial polyposis syndrome were not removed endoscopically. Patients were referred to surgery for total colectomy. One patient (0.89%) with large polyp (size of small orange) in the splenic flexure was also referred to surgery because endoscopic polypectomy was impossible.

Polyps were located in the proximal colon in 23 patients (20.5%), while 83 patients (74.1%) had polyps in the distal colon. Six patients (5.35%) had polyps or pseudopolyps in the whole colon. Concerning complications of endoscopic polypectomy, one patient (0.89%) had bleeding after polypectomy necessitating admission and blood transfusion.

Histopathological specimens were available in 110 patients (Table 1). Three patients (2.7%) had familial

Table 1: Data of the patients and histopathological features of the polyps

Parameters	n = 112
Age	3.5-68 years
Sex	
Male	60 (53.6%)
Female	52 (46.40%)
Locations of polyps	
Proximal colon polyps	23 (20.5%)
Distal colon polyps	83 (74.1%)
Diffuse involvement	6 (5.35%)
Complications of polypectomy	
Hemorrhage necessitating admission and blood transfusion	1 (0.89%)
Histopathology of the polyps (110 patients)	
FPS	3 (2.7%)
Adenomatous	22 (20%)
Malignancy inside adenoma	1 (0.9%)
Juvenile	53 (48.2%)
Bilharzial	5 (4.5%)
Pseudopolyps of ulcerative colitis	4 (3.6%)
Inflammatory due to undetermined cause	20 (18.2%)
Associated with rectal prolapse	1 (0.9%)
Associated with operation for rectal prolapse	1 (0.9%)

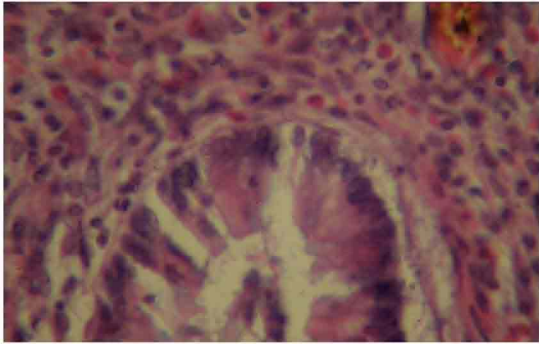


Fig. 1: Juvenile polyps

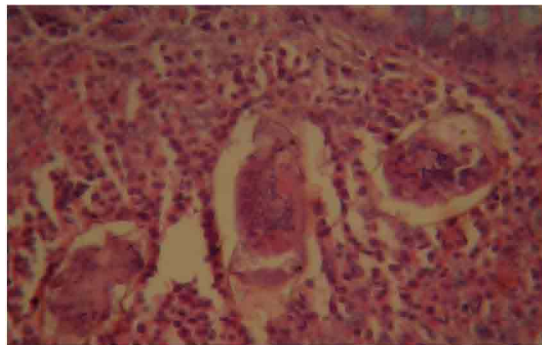


Fig. 2: Bilharzial polyp

polyposis syndrome, one of them had colectomy with polyps in the rectal stump. Twenty two patients (20%) had adenomatous polyps; their ages were above 18 years. Fifty three pediatric and adolescent patients (48.2%) had Juvenile polyps (Fig. 1). Five patients (4.5%) had inflammatory bilharzial polyps (Fig. 2). Four patients (3.6%) with ulcerative colitis had inflammatory pseudopolyps. One patient had sessile polyps in the rectum due to trauma of rectal prolapse. This patient had inflammatory polyps one year after rectal fixation. The polyps were located in the sigmoid colon at sites of previous structures. Twenty patients (18.2%) had inflammatory polyp due to undetermined cause. One patient had malignancy inside adenomatous polyp.

DISCUSSION

The polypoid lesions are made up of aggregations of cells originating from the glands (Muto *et al.*, 1985).

Polyp is a gross description or a clinical term used to describe a sessile or pedunculated mass protruding above the surface of mucosa and into the lumen. The polyp can be inflammatory or neoplastic, benign or malignant.

Polyps occur throughout the gastrointestinal tract but are particularly common in the large bowel. An accurate histological diagnosis and classification of polyps is important for a correct therapeutic approach.

Accuracy of colonoscopy in identifying polyps depends largely on the ability to examine a well prepared colon. In view of the demonstration that polyps can be found beyond the sigmoid or even left colon, the polyps can not be excluded unless the entire colon has been examined. This is consistent with the recommendation that pan-colonoscopy should be the procedure of choice especially in patients with bleeding per rectum (Poddar *et al.*, 1998; Gupta *et al.*, 2001).

Among 592 colonoscopic procedures polyps were found in 112 patients (18.9%). This figure is similar to that reported by Zakaria *et al.* (2006), who found that polyps were found in 296 cases (19.7%) out of 1500 colonoscopic procedures performed in the Gastrointestinal Endoscopy Unit, Kasr El-Aini Hospital, Cairo University from January 1998 to December 2000. Akhtar *et al.* (2006) found that polyps were found in 20.3% and 22.4% in patients with and without irritable bowel syndromes. In a study performed by Liu *et al.* (2005). They found that polyps were present in 971 (16.3%) subjects out of 5973 asymptomatic Chinese subjects.

In this study, 60 patients (53.6%) were males and 52 patients (46.4%) were females. Ahmad *et al.* (2006) found that among 393 patients with colorectal polyps; 268 patients (68.2%) were males and 125 patients (31.8%) were females. Also, Liu *et al.* (2005) found that colon polyps were detected in 971 subjects; 613 males (63.1%) and 358 females (36.9%). So we can conclude that colon polyps are more common in males than females.

Most of our patients (75%) were presented by bleeding per rectum and most of them were children and adolescents. El-Khayat *et al.* (2006) found that colorectal polyps were the second cause of rectal bleeding in Egyptian children. Ahmad *et al.* (2006) found that 339 patients (86.3%) out of 393 patients of colorectal polyps, had bleeding per rectum. In study performed by El-Mouzan and Abdullah (2004), they found that colorectal polyps were the second cause of rectal bleeding after colitis in Saudi children (represent 27%). The higher proportion (41%) was reported from India but still was the second most common cause (Yachha *et al.*, 1996). This difference is most likely to age related as study from India was reported on children between 8 months and 2 years. Whereas the Saudi report deals with range of children between 0 month and 18 years. It seems that these patterns reflect the general pattern of diseases in different communities. So the diagnostic yield of colonoscopy is very high especially in children presenting with bloody diarrhea.

Twenty three patients (20.5%) in this study had proximal polyps, 83 patients (74.1%) had distal polyps and 6 patients (5.34%) had diffuse involvement Liu *et al.* (2005) found that 58.6% of the polyps were located in distal colon, 29.2% of the polyps were located in the proximal colon and 12.2% of the polyps were found in both distal and proximal colon. De la Fuente *et al.* (2004) found that 72% of polyps were located distally to splenic flexure. Also, Ahmad *et al.* (2006) found that left colon were involved by polyps in 89.8% of patients, transverse colon in 3.8% of patients, right colon in 2% of patients and diffuse involvement of colon in 4.3% of patients.

In this study, one patient (0.89%) had bleeding after polypectomy necessitating admission and blood transfusion. Ahmad *et al.* (2006) found that bleeding following polypectomy occurred in 2% of patients. Dobrowloski *et al.* (2006) concluded that patients with polyps larger than 17 mm, pedunculated polyps with stalk diameter >5 mm, sessile polyps and malignant lesions of the colorectal region are at high risk of hemorrhage after endoscopic excision.

In this study, Juvenile polyps were the most frequent polyps (48.2%). Zakaria *et al.* (2006) found that Juvenile polyps were presented in 23.3% of patients with polyps. The difference may be due to that most of our patients were children and adolescents. In agreement with our figure is Ahmad *et al.* (2006) who found that 67.1% of their patients with polyps had Juvenile polyps.

In this study, adenomatous polyps were found in 20% of patients with polyps, the age of the patients was above 18 years. Zakaria *et al.* (2006) found adenomatous polyps in 35.5% of Egyptian patients with polyps. Erdem *et al.* (2005) found that adenomatous polyps presented in 16% of adult Turkish patients who underwent colonoscopy. Also Sieg and Theilmeier (2006) in Germany stated that tubular and villous adenomas were found in 16.2 and 3.8%, respectively out of 109989 colonoscopies in adult asymptomatic subjects. In Pakistan, a lower figure (9.9%) of adenomatous polyps among patients with polyps was found by Ahmad *et al.* (2006). In this study one patient was referred to surgery because the size of the polyp was large. Pathology revealed malignancy inside adenomatous polyp. Lo and Law (2003), concluded that colonic polyps that were not amenable for colonoscopic removal were associated with a high incidence of malignant invasion.

In this study, 5 patients (4.5%) and 3 patients (2.7%) had bilharzial polyps and familial polyposis coli respectively. Zakaria *et al.* (2006) found that bilharzial polyps and familial adenomatous polyposis coli presented in 11.8 and 7%, respectively in patients with polyps. The lower figure of bilharzial polyps in our study points to the decreasing prevalence of bilharziasis in Egypt nowadays.

This is due to efforts of government and ministry of health. El-Hawey *et al.* (1978). Found that distal colorectal polyps were present in up to 25% of patients with active colonic mansoniiasis.

Familial juvenile polyposis syndrome is a rare condition characterized by the development of multiple juvenile polyps in Gastro intestinal tracts (Desai *et al.*, 1995). The malignant potential was only recognized in 1981 (Rozen and Baratz, 1982). Malignant predisposition involves the colon and other parts of gastro-intestinal tracts. It also involves other relatives who are at risk for development of colon cancer. This calls for screening of the relatives including those who do not develop polyposis as we performed in the present study.

CONCLUSION

Juvenile polyps were the most frequent polyps in our study. The low number of bilharzial polyps points to the decreasing prevalence of bilharziasis in Egypt nowadays. Also, we suggest that data of this preliminary research might be utilized as a data base for future analytical research on large scale on children and adults separately in Sharkya Governorate.

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