

Evaluation of the results of colonoscopy in patients with a positive fecal occult blood test for colorectal cancer

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ABSTRACT

Introduction: The objective of this study was to present the pathological findings of fecal occult blood tests and results of colonoscopy procedures to discuss the clinical implications in the context of the current literature.

Materials and Methods: The results of a total of 205 patients (122 male, 83 female) aged 50 to 75 years who underwent a fecal occult blood test for stitching without a clinical complaint and who underwent colonoscopy due to positive results were retrospectively reviewed. Fecal occult blood screening was performed using the fecal immunochemical test method in all patients.

Results: The mean age of the patients was 63 years (range: 50–75 years). Of these patients, 13 (63%) were found to have a colon tumor, 59 (28.7%) had colon polyps, 1 (53%) had colon diverticulum, 8 (3.9%) had inflammatory bowel cast, 6 (2.8%) had hemorrhoids, and anal fissure was determined in 3 (1.4%). Nine (69%) of those with colorectal cancer were in the early stages (stage I-II), 2 patients (15%) were in the advanced stage and 2 patients (15%) were in the advanced stage. Non-neoplastic polyps were found in 18 of the 59 patients with colon polyps. Nonneoplastic polyps were detected in 41 patients.

Conclusion: The use of a fecal occult blood test in colorectal cancer screening followed by a colonoscopy when there are positive test results is an effective and essential method of assessment.

Keywords: Colonoscopy; colorectal cancer screening; fecal occult blood.

Introduction

Colon cancer is one of the most common cancer types in women and men.^[1] Colon cancer is a type of cancer that can be treated successfully when diagnosed at an early stage. Therefore, screening applications are very important in colon cancer. Fecal occult blood test (FOBT) is used in colon cancer screening in many countries.^[2] In our country, the FOBT is the first step of the system used in colon cancer screening. It is recommended that people

between the ages of 50 and 75 should be screened every 2 years with FOBT and colonoscopy should be performed if the test result is positive. What is expected from a screening test is that it is cheap, reliable, easy to apply and non-invasive. As a result of large-scale screening, mortality and morbidity-reducing effects of FOBT in colon cancer have been clearly demonstrated in the literature. On the other hand, since patients with polyps will be recruited to the colonoscopic follow-up program, it is evident that



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they contribute to the reduction of future colon cancer incidence. New generation FOBT have become more sensitive and specific than in the past; Furthermore, false positivity rates have decreased considerably.^[3] In our study, we aimed to present the pathological findings in the colonoscopy performed for the purposes of screening for occult stool blood and to discuss the clinical reflections with the current literature.

Materials and Methods

The records of patients who underwent colonoscopy due to fecal occult blood stenosis in Bafra State Hospital Endoscopy Unit between January 2016 and December 2018 were evaluated retrospectively. Endoscopy, pathology, surgery and radiological records of the patients were examined. All patients were between 50 and 75 years old with FOB testing without a clinical complaint. 205 patients were included in the study. Patients with previous colon surgery, whose colon cleansing was not optimal, known to be inflammatory bowel disease, not going until the cecum, were not included in the study. FOB scan was performed by fecal immunochemical testing in all patients included in the study.

Results

In this period, colonoscopy was performed in 205 patients (122 male, 83 female) with a mean age of 63 years, ranging from 50 to 75. Of these, 13 (6.3%) had colon tumor and 59 (90287) had colon colon. In 1 (53%) colon diverticula, 8 (3.9%) had inflammatory bowel disease, 6 (902.8) hemorrhoids and 3 (1.4%) anal fissure (Table 1). The rate of pathology detection was found to be 48.7% in patients with FOBT (+). The localization of 13 patients with can-

Table 2. Stages of cancer patients

| TNM class of patients | Number of patients | Stage |
|-----------------------|--------------------|-------|
| T1N0M0 | 1 | I |
| T2N0M0 | 6 | I |
| T3N0M0 | 2 | II |
| T3N1M0 | 2 | III |
| T3N1M1 | 1 | III |
| T4N2M1 | 1 | IV |

cellous tumor was detected: 2 patients had cecum, 1 patient had hepatic flexure, 7 patients had sigmoid colon and 3 patients had rectum localization. hemicolectomy, 2 patients underwent left hemicolectomy, 5 patients underwent segmental sigmoid colon resection and 3 patients underwent mesorectal low anterior resection. In stages of patients diagnosed with cancer, according to TNM classification: 1 T1N0M0, 6 T2N0M0, 2 were T3N0M0, 2 were T3N1M0, 1 was T3N1M1, 1 was T4N1M1. 9 (69%) patients had early stage (stage I-II), 2 patients (15%) were locally advanced and 2 patients (15%) were advanced stage (Table 2). Of the 59 patients with colon polyps, 8 of the colon polyps were larger than 2 cm and had polypectomy with sneer. The other polyps were smaller than 1 cm. Of the patients who underwent polypectomy, 18 had non-neoplastic; while hyperplastic, hematomatous or inflammatory polyps were detected, adenomatous polyps were found in 41 patients, tubular ovulocilosis in 8 and tubular polyps in 6 patients.

Discussion

Colon cancer is the third most common cancer in the world.^[2] The second most common cause of cancer deaths in Europe is colorectal cancer.^[4] For this reason, early diagnosis and screening of healthy population is very important in colon cancer. There are FOBT in the first step of colon cancer screening in many countries including Turkey. Patients with a positive FOBT should undergo colonoscopy. In some countries such as America, Germany and Poland, it is recommended to perform colonoscopy instead of FOBT in the first stage.^[5] In the literature, there are publications claiming that the FOBT increases the risk of complications by causing unnecessary colonoscopy due to the high rate of false positivity.^[6,7] Despite these reports, Areia et al.^[8] Reported that the use of FOBT in the first step of colon cancer screening was more effective than colonoscopy and did not increase the number of colonoscopy.

Table 1. Patients with pathology

| FOBT (+) and colonoscopy patients (n=205) | Patient with pathology (n=100) | |
|---|--------------------------------|------|
| | n | % |
| Tumor | 13 | 6.3 |
| Polyp | 59 | 28.7 |
| Diverticulum | 11 | 5.3 |
| Hemorrhoids | 6 | 2.8 |
| Anal fissure | 3 | 1.4 |
| Inflammatory bowel disease | 8 | 3.9 |

FOBT: Fecal occult blood test.

Negative criticisms are made for reasons such as the necessity of dieting before the test, interaction with animal foods and the necessity of repetition of test in positive arrivals. Such criticisms may apply to the Guaiac method used in the past. However, it does not apply to the fecal immunochemical tests used today. Fecal immunochemical tests are only tests that do not react with animal-derived hemoglobin that can be taken with food showing the presence of hemoglobin in the feces using polyclonal or monoclonal antibodies sensitive to human hemoglobin and thus have lower false-positive rates.^[9,10] The use of a FOBT in screening serves as a filter to identify patients to be directed to colonoscopy, while reducing the number of patients to be screened by colonoscopy. It is not possible to screen the whole population by colonoscopy, especially because of economic and physical deficiencies for developing countries. The FOBT is a reliable, inexpensive, non-invasive and easy to use.

In the etiology of FOB, adenocarcinoma, polyps, gastrointestinal metastasis, lymphoma and leiomyosarcoma, Crohn's disease, ulcerative colitis, gastritis, diverticular bleeding, vascular causes can be counted.^[11,12] Infectious causes include *Salmonella*, *enteroinvasive* and *enterohemorrhagic Escherichia coli*, *Shigella*, *Neisseria*, *Yersinia*, tuberculosis, *Campylobacter* and *Strongyloides*.^[13] In our patient series, polypectomy, colorectal cancers, diverticulae and inflammatory bowel diseases are the most common etiologies of FOB. The fact that we did not identify any cause of infection may be due to the absence of any clinical complaints of any patient in the patient group.

FOB may lead to early rectal cancer. In our study, 13 patients who could not be close to any of them were diagnosed with colon cancer. A very large proportion of patients^[9] were diagnosed with colon cancer in early stage. it will be higher.

Colon polyps are classified as non-neoplastic polyps (hyperplastic, hamartomatous, inflammatory polyps), neoplastic polyps adenomas (tubular, tubulovillous, villous).^[14] Tubular polyps account for 80% of adenomatous polyps, 3–16% of villous adenomas, and 16% of tubulovillous adenomas.^[2,15] In our series, the adenomatous polyp distribution was close to these rates. Adenomatous Polyps are known to turn into cancer in 7–15 years. The conversion of adenomatous polyps to neoplasia resulting from irregular epithelial proliferation and inability to show complete maturation or differentiation is a process commonly studied and commonly known as adenoma-carcinoma sequence.^[16,17] Screening and polyp excision significantly reduced colon cancer incidence and mortality.^[18,19] According to the results of a study conducted by Höglberg et al.^[20] Fecal immunochemical tests successfully detect 90% of symptomatic colon cancers and adenomatous polyps. Polypectomy was performed in 59 patients. Of 41 patients, polyps were adenomatous polyps with a risk of malignant transformation. It is possible to claim that there is no reduction in the risk of cancer in patients with no complaints due to FOBT.

Inflammatory bowel diseases are known to be precancerous. Due to advances in the treatment and treatment of inflammatory bowel diseases, the percentage of colorectal cancers caused by this disease group has been reported to be decreased.^[21] Patients in this group were included in the colonoscopic follow-up program. It is possible to say that these patients who have no obvious complaint have an important contribution to the early diagnosis of cancer and the mortality and morbidity caused by the disease.

Patients with diverticula were informed about the necessary lifestyle changes and dietary recommendations were made. Complications related to diverticula which may develop in the future were explained and the patients were informed. Patients with hemorrhoids and anal fissures were treated with medical and surgical treatment.

As a result, in almost half of the patients who underwent colonoscopy because of GGK positivity (100 patients), pathology was detected and necessary medical support was provided. Although there are false positives in the light of these data, it is an undeniable fact that cancer can be diagnosed at an early stage by the FOB screening and cancer rates can be reduced by polypectomy. It should be noted that treatment costs can be reduced. We believe that FOBT should be used in order to ensure that the people who are the main ones are healthy, and that colonoscopy is a necessary and effective screening method in positive test results. FOBT to be used as the first step in colorectal cancer screening; cheap, reliable, easy-to-apply and non-invasive features with a screening test meets expectations for.

Disclosures

Ethics Committee Approval: The study was approved by the Local Ethics Committee.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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