

## Original Article

# Evaluation of results of lower gastrointestinal endoscopic biopsy

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**Abstract:** Aim: The endoscopic examination is widely used and also the the gold standard in lower gastrointestinal system (LGIS) in the diagnosis and treatment of mucosal pathology. Colon and rectum often hosts premalignant lesions and relatively easily accessible organs. Therefore, colorectal cancer (CRC) is a early detectable disease. And to prevent the development of CRC and to capture at early stage the screening tests such as screening endoscopy are used. In our study was aimed to evaluate the biopsy results of the lower gastrointestinal endoscopy. Materials and Methods: The lower gastrointestinal endoscopy (LGE) biopsy results of 135 cases and demographic characteristics of the patients were evaluated retrospectively who admitted to Department of Pathology between January 2013-November 2013. Results: 135 patients enrolled in the study, 89 (65.92%) of male and 46 (34.07%) were female. The age of patients were between 15 and 82 with a mean age of  $53.00 \pm 14.6$ . 85 of 135 cases (62.96%) were colitis, 3 (2.22%) were hyperplastic polyps, 22 (16.30%) were tubular adenoma, 15 (11.11%) of them tubulovillous adenoma, 1 (0%, 74) of submucosal lipoma, 9 (6.67%) patients were diagnosed with cancer. All of the cancer cases were in adenocarcinoma histology, one of developing from villous adenoma, one of them from tubulovillous adenoma. Cases of adenomas were included to only cancer groups because there is no duplication of data. Conclusion: Colonoscopy in the detection of both benign and malignant LGIS pathologies is the gold standard method. The upper and lower gastrointestinal endoscopy(LGE) must be remembered as a reliable method in the population, with a low complication rate and high diagnosis rate and when there is clinical necessity gastrointestinal endoscopy should not be avoided as planned.

**Keywords:** Lower gastrointestinal system (LGIS), colorectal cancer (CRC), lower gastrointestinal endoscopy (LGE)

## Introduction

Experienced great development in the last 20 years at gastrointestinal endoscopy and colonoscopy; screening has become the most commonly performed procedure in the treatment of diseases of the large intestine, and colon cancer. Superiority of the process is that at the same time biopsy can be taken from the lesion and there are opportunities for therapeutic approaches.

In developed countries, colorectal cancer (CRC), leads to serious morbidity and mortality and this cancer is among the top 5 in our country with a major health problem. According to

Globocan 2008 CRC the third most common cancer in men worldwide (663 thousand cases, 9.7% of the total) and the second most common cancer in women (570 thousand cases, 9.4% of the total). Almost 60% of cases are seen in developed regions. World-wide due to CRC is approximately 608 thousand deaths (8% of cancer deaths) are reported. Colon and rectum often hosts premalignant lesions and relatively easily accessible organs. Therefore, CRC is a early detectable disease. And to prevent the development of CRC and to capture at early stage the screening tests are used. CRC screening methods, is thought to decrease invasive cancer morbidity and mortality, and in this

## Lower gastrointestinal endoscopic biopsy results

**Table 1.** Lower gastrointestinal endoscopic biopsy results

Biopsy results	N (%)
Colitis	85 (62.96%)
Hyperplastic Polyps	3 (2.22%)
Tubular Adenoma	22 (16.30%)
Tubulovillous Adenoma	15 (11.11%)
Submucosal lipoma	1 (0.74%)
Adenocarcinoma	9 (6.67%)

respect is one of the few methods with proven effectiveness. Polyps and cancer symptoms of the large intestine (colon and rectum) often do not thoroughly give any symptom of growing up. With cancer screening programs; (pre-malignant) localized adenomatous polyps and early cancers can be detected and possibly treated.

The objective of our study is retrospective analysis of the histopathologic diagnosis of lower gastrointestinal endoscopic biopsies.

### Materials and methods

The lower gastrointestinal endoscopy (LGE) biopsy results of 135 cases and demographic characteristics of the patients were evaluated retrospectively who admitted to Iskenderun State Hospital Department of Pathology between January 2013-November 2013.

### Statistics

It was a cross-sectional descriptive study and data intervals were calculated on the 95% confidence. Analysis SPSS 15:00 package program has been used. While data analyzing, descriptive statistics frequency (s), percent (%), mean (x), standard deviation (SD) were evaluated. Pearson correlation and Chi-square test was used.  $P < 0.05$  was considered as a statistically significant result.

### Results

In this study, 135 LGE biopsy specimen records with a definite diagnosis were retrospectively analyzed.

135 patients enrolled in the study, 89 (65.92%) of male and 46 (34.07%) were female. The age of patients between 15 and 82 and the mean age was  $53.00 \pm 14.6$ . Men between the ages of 15 and 81 with a mean age of  $54.55 \pm 14.0$ ;

women ages 15 to 79 with a mean age of  $51.10 \pm 15.3$ .

Lower gastrointestinal endoscopic biopsy results were given in **Table 1**.

Age distribution according to biopsy results were given in **Table 2**.

### Discussion

LGE in the diagnosis and treatment of mucosal pathology remains as the gold standard and widely used. All columns to be displayed, removal of polyps of the colon, taking biopsy from the mucosal pathology such procedures are applied through an endoscope [1]. Endoscopy is more often done in patients who suffer from constipation and rectal bleeding although it is important in any kind of early detection of pathological conditions of the colon. American Cancer Society anyone over the age of 50 years suggests taking one look at occult blood in a stool specimen every year and rectosigmoidoscopy at intervals of 3-5 years [2]. Gastrointestinal tract disease in the endoscopy indications the guides are available formed by American Gastrointestinal Endoscopy Association (ASGE) and Gastrointestinal Endoscopy Eligibility European Panel (EPAGE) [3, 4]. Recent years people's awareness level increases about cancer and cancer prevention therefore screening endoscopy becoming more frequently used for early diagnosis of gastrointestinal cancer [5, 6].

Most obvious advantages of the colonoscopy is; to diagnose by imaging mucosa directly, to identify any haemorrhagic lesion, if necessary taking biopsies and the ability to do some therapeutic interventions (heat probe, epinephrine injection, laser therapy, band ligation or hemoclipping method) [7]. In the early period compared to the late period; colonoscopy has a higher value at diagnosis and treatment [8, 9]. In addition to early colonoscopy is associated with shorter hospital length of stay [8-10].

CRC ranks first in terms of gastrointestinal cancer. CRC is seen as the third cancer in the United States according to the frequency and also at third at death from cancer. Both women and men in our country are among the top five [11, 12]. CRC is in the top row of cancer related

## Lower gastrointestinal endoscopic biopsy results

**Table 2.** Age distribution according to biopsy results

		Womenn (%)	Menn (%)	Mean age	Mean age of women	Mean age of men
Colitis	İBD	7 (58.33%)	5 (41.67%)	48.64	48.42	48.00
	other	26 (35.62%)	47 (64.38%)	50.3	48.3	51.3
H. Polyps	-	-	3 (100.0%)	59.66		
Tubular Adenoma		7 (31.82%)	15 (68.18%)	50.66	48.30	55.26
Tubulovillous Adenoma		4 (26.67%)	11 (73.33%)	62.2	59.00	63.36
Submucosal lipoma		1 (100.0%)		59.00		
Adenocarcinoma		1 (11.11%)	8 (88.89%)	60.66	52.00	61.75

*İBD: inflammatory bowel disease.* All of the cancer was in adenocarcinoma histology, one of them diagnosed as adenocarcinoma arising from villous adenoma and also one case from tubulovillous adenoma. All adenomas are included in the cancer group because there was no duplication of data.

morbidity and mortality therefore a major public health problem.

In the literature, different results are available according to the gender distribution of CRC. CRC is expressed more common in men than women. In the majority of studies showed that there is no significant difference with in terms of prognosis and gender [12, 13]. In a study of Boyle et al. On the epidemiology of CRC, they indicated that 1.1 times more common in men than in women [14]. In our study, most patients were males (56.3%) and according to the results of colonoscopy, adenocarcinoma were identified approximately 8 times more in males than women. There was no significance at survival according to gender differences. Abulfalgha [15], during his one-year study period, 57 of 89 patients (64%) were men and 32 (36%) of women who hospitalized with acute gastrointestinal bleeding.

Risk factors are defined in CRC and the frequency is increasing at an advanced age. The prevalence studies show that CRC is more commonly seen in people over 50 years of age [16]. In studies with larger series it was found that the peak is at 7 decades [17]. In the study of Köseoğlu et al. median age was  $57.9 \pm 15.8$  (20-91 years) and most patients were male (58.1%) and have been identified as elderly [18]. Other similar studies also show that in the clinical profile of hospitalized patients with a diagnosis of acute gastrointestinal bleeding there are elderly patients [19-22]. In studies this increase of incidence with age is linked to, the increasing prevalence of colonic diverticulosis and the increasing prevalence of colonic angiodysplasia with age [23].

The most common causes of the acute gastrointestinal bleeding are diverticulosis, vascular malformations and ano-rectal diseases [24-26]. Colon cancers, colitis (including infectious or ischemic forms of radiation), inflammatory bowel disease, polyps, Meckel's diverticulum, and aortoenteric fistula are the other causes [19]. Hemorrhoids are probably the most common cause of acute gastrointestinal bleeding, but usually does not pose difficulty in diagnosis and rarely cause massive bleeding. Similarly, anal fissures can bleed easily and repeater and also can be diagnosed easily based on clinical findings [19]. Colonoscopy is a good option for definitive diagnosis and treatment [27].

In our study, according to colonoscopic biopsy results; the most frequent was colitis (62.96%) and than tubular adenoma (16.30%), tübülovillous adenoma (11.11%), adenocarcinoma (6.67%), hyperplastic polyps (2%, 22) and submucosal lipoma (0.74%) were determined. In the study of Gayer et al. [28] lower gastrointestinal bleeding causes were respectively; diverticulosis (33.5%), hemorrhoids (22.5%) and cancer (12.7%) and was reported also in this study that the most frequent cause of bleeding that require with surgical procedures was the colon cancer (34.4%). In the study of Cyprus, 5 male patients over age 50 had colonoscopy for screening and has been identified invasive adenocarcinoma of the sigmoid colon in one patient and tubular adenoma with malignant potential in the ascending colon at other patient. The first of these patients were treated surgically and the other was taken to follow-up program after endoscopic polypectomy [29].

Both British and American guidelines recommends colonoscopy and upper endoscopy for

men and women with iron deficiency anemia (IDA) [30-32]. Different approaches for some special cases is indicated in the British Gastroenterology Society (British Society of Gastroenterology, BSG) guideline. According to BSG although a little data to support this thesis, over the age of 50 premenopausal women with iron deficiency as well as gastroscopy and colonoscopy should be performed. Women under the age of fifty; If colonic symptoms and ongoing iron deficiency anemia despite treatment with iron, colonoscopy should be performed. In men, regardless of age if there is iron deficiency both gastroscopy and colonoscopy should be done. A study conducted to Çetinkaya et al. upper LGE done to patients presenting with iron deficiency. Only colonoscopy was done to 116 patients; 10 (8.6%) of had tumor at any localization of colon, 2 (1.7%) of had angiodysplasia, 31 (26.7%) of had hemorrhoids, 6 (5.2%) cases of inflammatory bowel disease, 6 (5.2%) of polyps, 7 (6.0%) of had diverticulum and normal colonoscopic appearance were identified in 54 (46.6%) patients, [33].

Study of Köseoğlu et al. there was 43 patients with acute gastrointestinal bleeding over the age of 18 and their colonoscopic diagnosis were; anal fissure in 3 (6.9%) cases, angiodysplasia in 3 (6.9%) cases, hemorrhoids in 14 (32.6%) cases, CRC in 4 (9.3%) cases, diverticulosis in 8 cases (18.6%) and the ulcerative colitis in 7 (16.3%) cases and 4 (9.3%) cases could not diagnosed by colonoscopy [18]. Fernandez et al. [19] in their study: internal hemorrhoids in 62 patients (35.0%) diverticulosis in 24 patients (13.6%), ischemic colitis in 19 patients (10.7%), colon cancer in 18 patients (10.2%), infectious colitis in 16 (9.0%) patients, angiodysplasia 7 patients (4.0%), inflammatory bowel disease in 5 patients (2.8%), ulcer or anorectal fissure in 5 patients (2.8%), and 2 (1.1%) patients had colon polyps. In the study of Tarık et al. [34] the causes of acute gastrointestinal bleeding were like; 31.0% with internal hemorrhoids, 22.7% of ulcerative colitis and was followed as 21.5% with anal fissure, 6.9% with non-specific colitis, 6.2% of with rectal cancer. Abulfalgha's [15] study in patients admitted with acute gastrointestinal bleeding hemorrhoids again has been identified as the most common cause. This situation results in the United States with [35] and Tan et al. [36] are similar to the results of a

series in Singapore. In the study of Shennak et al. [37] consisting of 701 patients, rectal bleeding hemorrhoids has been identified as the most common cause.

In recent years, in the studies conducted in various centers around 15% is the percentage of polyps detected. In our country polyps are more frequent in men at 50 years of age and over and also shown that mostly located at left colon. The majority of colorectal polyps are adenomatous polyps. Tubular adenomas are 80-86% of, villous adenomas are 3-16% of and tubulovillous adenomas are 8-16% of adenomatous polyps [38]. In the study of Sure et al. percentage of polyp was found 22.06%. Approximately 60% of patients were male, and 66% was located in the left colon. Total of 75.7% was adenoma, 2.91% was determined with dysplasia, 7 patients (0.8%) as adenocarcinoma [39]. In the study of Dölek et al. 59.4% of all gastrointestinal polyps were tubular adenoma, 23.2% of hyperplastic polyps, 8.1% of tubulovillous adenoma, 6.3% of inflammatory polyps, 1.1% of tubulovillous adenomas who become cancerous, 0.4% of adenomatous polyps who become cancerous, and the incidence was found consistent with the literature [40]. In our study of 135 cases 29.63% of were polyps and the most were tubular adenomas. 72.5% of the patients were women and the average age was over 50.

As a result; with symptoms of lower gastrointestinal tract colonoscopy is the gold standard method in the detection of benign or malignant pathology. Also LGE must be remembered, with a low complication rate and high diagnosis rate and with a reliable method in patients.

### Disclosure of conflict of interest

None.

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