

**B.Tsutskiridze,S.Jaiani,N. Kviciani,G.Tsutskiridze**  
**Experience of endoscopic removal of bleeding tumors in the colon.**  
**(Tbilisi, Georgia-St. Petersburg,Russia)**

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Endoscopic mucosal resection is a safe and effective method of removal of medium and large tumors of the colon;During large formations removal in the colon on the broad basis it is preferable to use endoscopic mucosal resection due to lower risks of complication;  
The size of tumors more than 20 mm often necessitates the fragmental removal.

**Key words:** endoscopy, colon, electroexcision

**Introduction:**Tumors of the colon are among the most common tumors of the gastrointestinal tract and is fourth among all cancers. According to the International Agency Research Cancer a fraction of colorectal cancer accounts for 8% of cases out of the total deaths from cancer in the world. The average annual growth rate is about 20%, 13% of them are accounted for rectum and anus cancer. Subsequently, due to the worldwide aging of the population, significant increase in the incidence of colorectal cancer is expected. Such a complication of colon cancer as obstructive ileus occur in 20-35% of patients due to late diagnosis and late uptake, especially among aged people.

Digital rectal examination allows physician to assess the condition of the rectal area to 10 cm from the anus and is the most simple and accessible method. Fecal occult blood test gives a positive result only in 1 case out of 5. In a one third of these cases the positive results are due to colon polyps, and only a one-twentieth part of them are due to colon cancer.

Methods of screening are still controversial. Currently there are a number of methods of the colon visualization, each of which has its advantages and disadvantages, but none of them allows successfully implementing the possibility of early diagnosis of malignant tumors of the colon and precancerous lesions (G. Vorobiev, 1998, S. Emelyanov, 2007). Until now, conventional colonoscopy is the "golden

standard" in the colorectal cancer diagnosis. It is considered that a colonoscopy is safe for aged patients, but its diagnostic value in this age group is relatively low. Colonoscopy in many developed countries allows reducing mortality from colorectal cancer, for example more than 50% of cases of cancer are detected by colonoscopy in the early stages of development. However, these methods can still bring possible false negative diagnosis (25% of cases) due to insufficient preparation of the patient, the complexity of the examination of the intestine bends, inadequate interpretation of the findings, negative biopsy.(S.Glick 2002) .During colonoscopy complications such as bleeding, perforation are possible.

It is known that the occurrence of colorectal cancer may be prevented by timely detection and removal of polyps. Its direct precursor is an adenomatous polyp, which detection is a prescreening of malignant disease, and its removal is preventing the development of cancer. According to different authors, benign tumors are detected in 20-40% of cases during the screening colonoscopy. Endoscopy of the colon detects almost any formation larger than 0.5 cm. When the size of polyps is less than 5 mm, it is rarely a malignant tumor, in polyp size from 5-10 mm the probability malignant changes is about 1%, with size 10-20 mm the probability of malignant tumor is 10%, when the size is more than 20 mm the probability is 46%. Endoscopic removal of large nonpolypoid and polypoid on broad based formations (adenomas and early cancer) is an alternative to surgical treatment of this disease of the colon.

Of course a colonoscopy is not a faultless method, the frequency of undiagnosed missed polyps is inversely proportional to the size of new tumors. However, early diagnosis of precancerous lesions and early cancer can significantly improve the results of surgical treatment of such patients. Colonoscopy in the elderly with symptoms of cancer can significantly reduce mortality. A colonoscopy itself should be carried out before the onset of symptoms of cancer. To compare the efficiency and safety of endoscopic resection and loop electroscission in large tumors removing of the colon.

**Materials and methods.** The results of 10 endoscopic resections and 22 loop electroscission is evaluated among 27 patients with bleeding in tumor formation in colon, including critical patients and patients with decubital wounds. All patients were previously performed a total colonoscopy by apparatus CF-30 ("Olympus", Japan). The most common form was localized in the left half of the colon, represented the glandular or villous adenoma, and matched surface spreading tumors (15 cases) and tumors on a broad basis (17 cases). In most formations size it was from 20 to 30 mm (14 cases).

Table 1. Characteristics of distant formations

Factor		Loop removal	Resection
Number of patients		10	17
Gender	male	7	8
	female	3	9
Number of formaions		10	22
Type of formations	surface	3	12
	broad basis	7	10
Localization (intestines)	rectum	5	11
	sigmoid colon	3	6
	descending colon	1	1
	transverse colon	1	2
	ascending colon	-	1
	cecum	-	1
<20		3	7

Size, mm	20-30	4	10
	31-40	2	3
	> 40	1	2
Morphology	glandular adenoma	5	12
	villous adenoma	3	7
	non-invasive carcinoma	1	2
	invasive carcinoma	1	1

Among 27 persons (12 women and 15 men) aged 39 to 77, there were 32 formations in colon were removed. In 10 cases, the mucosal resection technique was used, in 22 cases - loop electroscission. The study included patients with formations of 20 mm or more, corresponding to the types 0-Is and LST of the Paris classification of epithelial neoplasia.

To perform a colonoscopy fibrocolonoscopy CF-30 (“Olympus”, Japan) was used. Preparation of patients was carried by drug “Fortrans” (“Ipsen”, France) according to a standard scheme. Mucosal resection involves the following steps: aiming chromoscopy 0.5% solution of indigocarmine; submucosal injection of a liquid (a solution of adrenaline 1:10 000) with injectors NM-200U-0423 (“Olympus”) or injector company “Wieser GmbH” (Germany); capture and removal of a loop or SD-16 (“Olympus”). Mixed mode is applied to the current prevalence of coagulation. During loop removal the same types of loops were used in the sequencing mode coagulating and cutting power. Morphological characteristics of tumors, the technique and the completeness of their removal, complications and immediate result of the intervention were evaluated. Perforation or bleeding was considered as complication, which required additional surgical or endoscopic intervention. Removing healthy tissue is considered as absence the tumor tissue of the border or in the wound bottom. Recurrent formation is considered to detect tumor tissue scarring or on its borders.

**Results and Discussion:** According to our data, 30% of colonoscopy allows to identify changes in intestines of different nature. In our observations in hospitalized patients tumor formations were detected in 15% of cases, in ambulatory patients – in 11% of cases.

Most often, these structures were located in rectum (50%) and sigmoid colon (28%). Tumor size was from 10 to 50 mm (average -  $25 \pm 5$  mm). Formations were consistent with superficial tumors in 10 cases and on a broad basis - in 22 cases. Morphologically removals of tumors in 53% of cases were the glandular adenoma, in 31% of cases – in villous tumors. Adenocarcinoma was diagnosed in 16% of patients.

Loop excision of tumors within sight of healthy tissue was performed in 10 cases. In 2 cases the removal was incomplete for technical reasons. In one case it was subsequently performed surgical resection of part of the intestine with the new formation. Perforations were observed, there was no bleeding episodes. Incomplete removal was observed in the resection, and during electrosurgery. In resection group the tumor was possible to remove within healthy tissue in 20 cases. At two observations it was decided to abandon attempts to complete removal of suspected invasive education, in one case, it was confirmed during a subsequent operation. Among complications 1 case of bleeding was observed, docked conservatively.

Table 2. The results of endoscopic treatment

Factor		Loop removal	Resection
Removal	fragments	3	7
	single block	7	15
Incomplete removal or relapse (surgery)		2 (1)	2 (1)

treatment)		
Bleeding	0	1
Perforation	0	0

Among 22 entities larger than 20 mm in a single block 12 were removed (resection and 8 by 4 by loop excision). Another 10 structures larger than 20 mm were fragmentally removed (7 by resection and 3 using loop excision). Among 10 entities smaller than 20 mm all 10 were removed in a single block (7 by resection and 3 using loop excision). Loop excision has long been the primary method of removal of medium and large tumors of the colon. An alternative method of treatment became developed by Karita et al. [3] method of endoscopic mucosal resection. Comparison of these two technical approaches demonstrated tendency towards a greater number of successful interventions and lower the number of complications in endoscopic resection. At the same time, the difference did not reach statistically significant values.

A common disadvantage of both techniques electrosurgical mucosa and endoscopic resection is the difficulty of removing the formations in a single block even up to 25 mm, and almost inevitable use of fragmentation techniques with 25 mm or more formations. According to received data, the size of formation of more than 20 mm, is a factor predicting a low probability of removing in a single block, regardless of the technique used. According to our research 21-30 mm formations were removed in a single block was able only 75% of cases, the formations of larger than 30 mm were able to resection only partly, although the removal of tumors in several fragments makes histological study difficult, which is especially important in the endoscopic treatment of early colon cancer.

**.Conclusion:**In the present article the authors examined data on the 27 patients who had bleeding tumor formations in colon, including malignant. Some of the patients were treated at the Critical Care Institute in critical and serious condition with large decubital wounds.

Endoscopic assistance service established at the institute allowed diagnosing bleeding during the first hours, and treatment of the bleeding site with the help of physical endoscopic methods. Our clinic has been applied treatment of bleeding in the colon by endoscopic mucosal resection method and endoscopic electrosurgical by conventional means.

It was found that endoscopic mucosal resection is a safe and effective method of medium and large colon tumors removal. This technique has a lower risk of complications. It is proved that tumors with size more than 20 mm require the fragmental removal.

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### **ბ.ცუცქირიძე, ს.ჯაიანი, ნ.კვიციანი, გ.ცუცქირიძე მსხვილი ნაწლავის სიმსივნური წარმონაქმნიდან სისხლდენის ენდოსკოპიური მეთოდით მკურნალობის გამოცდილება**

შემოწმებულია იმ 27 პაციენტის მონაცემი, რომლებიც ჰქონდათ სისხლდენა მსხვილი ნაწლავის სიმსივნიდან, მათ შორის ავთვისებიანი. აღმოჩნდა, რომ ენდოსკოპის მეშვეობით ლორწოვანის რეზექცია არის უსაფრთხო და ეფექტური მეთოდი მსხვილი ნაწლავის სიმსივნური წარმონაქმნიდან სისხლდენის დროს.