

INTRAOPERATIVE COLONOSCOPY - INDICATIONS AND ADVANTAGES

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ABSTRACT

The introduction of colonoscopy as a routine method in the diagnostic and treatment practice is a new stage in coloproctology. As we know, the number of paraneoplastic diseases and multicentral forms of cancer increases. Based on the existence of determinate number of preoperative colonoscopical unexamined patients, we began the application of intraoperative "peranal colonoscopy". With the method of intraoperative colonoscopy were examined 25 patients. From them 19 were men and 6 women at the age of 31 to 65 years. In 25 examined patients we discovered 9 with undiagnosed preoperatively polyps over the stenosing tumor process. Knowing the opportunities of the intraoperative colonoscopy and based on our experience we propose that this method could be applied in urgent operative interventions of colon and rectum with unknown source of haemorrhage. Intraoperative colonoscopy is a valuable diagnostic method in the surgeon's hands and its appropriate application to selected patients helps us having the correct operative behaviour.

Keywords: Intraoperative colonoscopy

The introduction of colonoscopy as a routine method in the diagnostic and treatment practice is a new stage in coloproctology. According to our data and review of the literature (1,2,6) in about 15% to 18% of the cases, because of different reasons, can be made detailed endoscopical examination, i.e. inspection of cecum. As we know, the number of paraneoplastic diseases and multicentral forms of cancer increases. Based on the existence of determinate number of preoperative colonoscopical unexamined patients, we began the application of intraoperative "peranal colonoscopy". The advantage of this method is that with its application we can have 100% preoperative colonoscopy. It helps us to avoid some obstacles and difficulties in the routine colonoscopic examination and enlarges our opportunities for diagnosis and treatment of inaccessible for preoperative examination areas (3). In many cases the impossibility of full preoperative colonoscopic examination is because of: specific anatomical structure of the colon, transverse colon ptosis - reaching the pelvis and formation of arches, high splenic flexure of colon, stenosis of the colon lumen, adhesions. These obstacles are not difficulties for the intraoperative colonoscopy (2,9,10). It is known from the literature that in every fourth patient, operated for colorectal cancer, one or more polyps situated in other intestine segment are discovered (4,5,7,8). Undiagnosed with

double contrasted X-ray examination or intraoperative palpation (in many small polyps) polyps situated over the stenosing lumen process, which can make their preoperative examination and diagnosis difficult, are real threat for malignant transforming in the postoperative period. The combination of laparoscopy with an intraoperative colonoscopy is a suitable alternative on the occasion of advanced colonic neoplasm with livermetastases (11). That obligates the application of intraoperative colonoscopy which gives us the opportunity these potential neoplasms to be discovered and removed colonoscopically. In that way the capacity of the operative intervention can seriously be decreased.

Some part of the patients with nonmalignant diseases like CUHC, Crohn's disease, colon polyposis and others are selected at the group of incomplete examined preoperatively patients. This is the reason why the intraoperative colonoscopy is an obligatory method for determination of the resection line and the capacity of the operative intervention. By the other side the intraoperative colonoscopy gives the endoscopist an opportunity to examine the terminal ileum using the active help of the surgeon for leading in the endoscope. This is a rare opportunity in the routine preoperative colonoscopical examination. In this way terminal ileum diseases undiscovered with other diagnostic methods can be diagnosed.

Intraoperative colonoscopy gives a new optimal condition for blood vessels visualization. That is possible through lightening of the colon wall and mesentery vessels. The visualization is easy even when the mesenterium is thick

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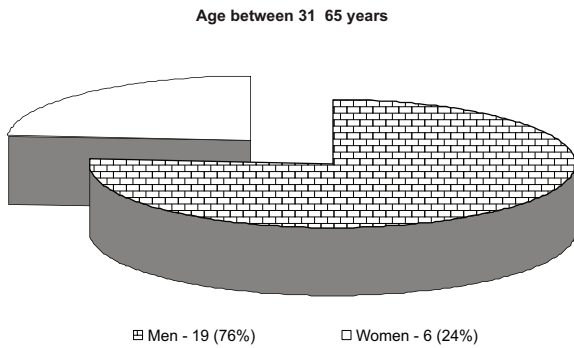
and the endoscopist could see bigger and smaller blood vessels feeding the colon wall.
 For the last five years as a new method for exact nodal staging in patients with colorectal cancer is introduced the sentinel node mapping by intraoperative colonoscopy. Sentinel lymph node (SLN) mapping in colorectal cancer (CRC) is a new method for determination of the nodal status, which enters in the world practice for the last five years. (12).

MATERIALS AND METHODS

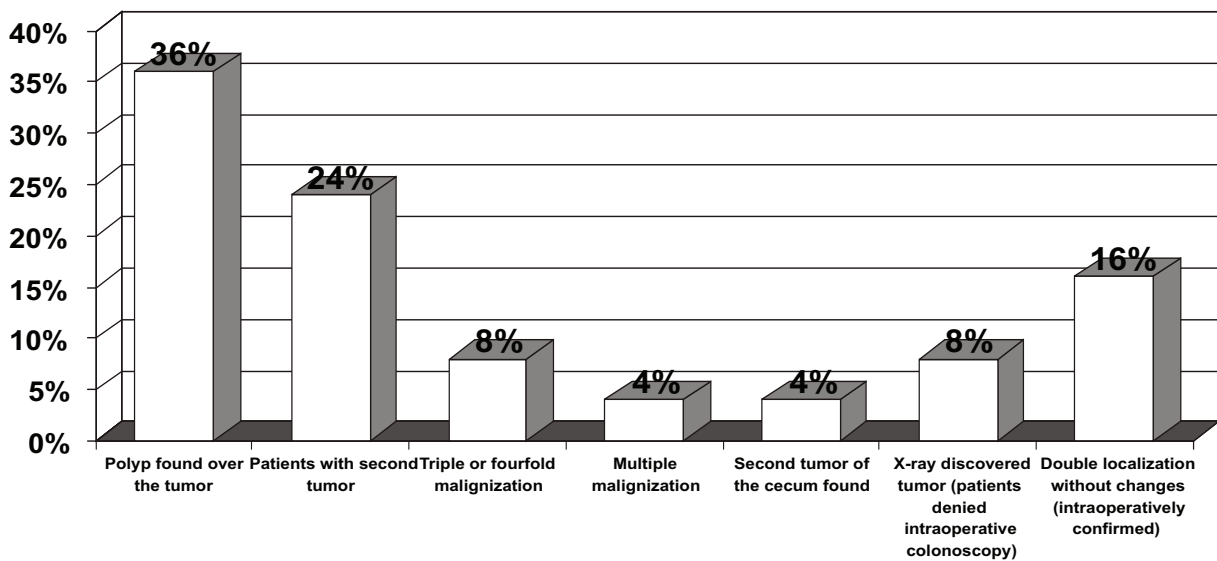
Because of the advantages of intraoperative colonoscopy The Department of General and Operative Surgery and the Sector of endoscopic, laser and miniinvasive surgery at Medical University of Varna, Bulgaria accomplished intraoperative colonoscopical examination of 25 patients. We used fibrocolonoscope Olympus CF-10-L and OTV videomonitor system, which helped us to synchronize the endoscopist and the surgeon team.

The endoscopist leads in the endoscope, while the operator is compressing the colon in different segments to reduce its filling with air. In the segments, where there are difficulties during the endoscopic manipulation, the operator helps the movement of the endoscope. In this way we could easily pass through all physiological curves of the colon. That gives us a chance to pass the endoscope through stenotic areas which in many occasions is not possible in the preoperative examination.

With the method of intraoperative colonoscopy were examined 25 patients, who were about to be operated for X-ray or colonoscopically discovered benignant or malignant diseases of colon and rectum. From them 19 were men and 6 women at the age of 31 to 65 years. In 25 examined patients we discovered 9 with undiagnosed preoperatively polyps over the stenosing tumor process. They were removed at the same stage, by intraoperative polypectomy. In 6 patients we discovered second tumor situated at different place over the obstruction. In 2 patients was discovered triple or fourfold localization for simultaneous growing tumors. In 1 patient, was discovered presence of multiple malignization of ulceral colitis, with different stages of growth and malignization from rectum to colon. In other patient over the obstructing sigmoid colon process was discovered second tumor of the caecum, which was not diagnosed by X-ray method and the colon part between these two tumors was with Ulceral colitis. In these patients we changed the capacity of the planned operative intervention. In two patients with X-ray proved tumors and patients refusal of preoperative colonoscopy the intraoperative colonoscopy rejected malignant process. In the remaining four patients were not found other alteration of the colon wall, diagnosed by X-ray method or with preoperative endoscopy. In two of them with Crohn's disease localized in the rectal wall and doubt about



Graph. 1



Graph. 2

engagement of the terminal ileum with intraoperative colonoscopy examination were not found pathological alterations. In the last two patients X-ray method had doubt about double localization of the malignant process which was not confirmed from intraoperative colonoscopy. Knowing the opportunities of the intraoperative colonoscopy and based on our experience we propose that this method could be applied in urgent operative interventions of colon and rectum with unknown source of haemorrhage.

RESULTS AND DISCUSSIONS

The research in our clinic, our experience and the results from the intraoperative colonoscopic examinations gave us opportunity to define the indications for this manipulation:

1. Impossibility of passing the colonoscope preoperatively over the tumor obstruction.
2. Application of preoperative colonoscopy in patient with X-ray data for cancer and patient refusal of this procedure.
3. Application of this method in emergency operations with unknown source of haemorrhage.
4. For terminal ileum examination.
5. To specify the resection line in ulceral colitis, multiple polyposis and Crohn's disease.
6. For diagnostics and resection through intraoperative polypectomy of polyps, situated over tumor obstruction.
7. Application of the method to patients with high splenic flexure and ptosis of transverse colon.

CONCLUSION

Intraoperative colonoscopy is a valuable diagnostic method in the surgeon's hands and its appropriate application to selected patients helps us having the correct operative behaviour.

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