Higher adenoma recurrence rate after left- versus right-sided colectomy for colon cancer CME

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Background: Patients with history of colonic resection for cancer have an increased risk of the development of metachronous malignant and premalignant lesions. Scanty data are reported on detection rates of premalignant lesions during colonoscopy surveillance in this setting.

Objective: To assess the risk of metachronous precancerous lesions developing in patients with previous colonic surgery for cancer according to the resection type.

Design: Retrospective study.

Setting: Two academic centers in Italy.

Patients: A total of 441 patients; 256 with previous left-sided colectomy (LCR) (LCR group) and 185 with previous right-sided colectomy (RCR) (RCR group).

Interventions: Second surveillance colonoscopy.

Main Outcome Measurements: Polyp and adenoma detection rates.

Results: At least 1 adenoma was diagnosed in 76 of 256 patients (30% adenoma detection rate) and in 35 of 185 patients (19% adenoma detection rate) in the LCR and RCR groups, respectively ($P = .014$), yielding an odds ratio of 1.83 (95% confidence interval, 1.16–2.89). Corresponding figures for the polyp detection rate were 39% and 25%, respectively ($P = .002$; odds ratio 1.97; 95% confidence interval, 1.30-3.00).

Limitations: Retrospective study with colonoscopy baseline information missing.

Conclusions: Patients who have undergone LCR are at higher risk of the development of adenomas than those who have undergone RCR. If this result is confirmed by large prospective studies, surveillance programs could be targeted according to the type of colonic resection, with longer intervals for patients with previous RCR compared with LCR. (Gastrointest Endosc 2015;82:337-43.)

Today, the 5-year survival rate for colorectal cancer (CRC) is approximately 65%, and it is progressively increasing because of the recent improvement in CRC early detection and treatment.[1] Surgical resection has a pivotal role in the management of patients with CRC and represents the primary treatment for the approximately 80% of those with nonmetastatic disease.

Abbreviations: ADR, adenoma detection rate; CI, confidence interval; CRC, colorectal cancer; LCR, left-sided colectomy; OR, odds ratio; PDR, polyp detection rate; RCR, right-sided colectomy.

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Surveillance colonoscopy is highly recommended by major international scientific societies with the intent of either detecting anastomotic recurrence at an early, curable stage or identifying metachronous premalignant (ie, adenomas) and malignant lesions.[2-5] Current guidelines recommend performing surveillance colonoscopy 1 year after either the intervention or a clearing procedure. In case of negative results, the examination should be repeated after 3 years and then every 5 years.[2] These recommendations are based on an estimated metachronous cancer rate of 0.7% over the first 2 years after surgery.[2] Actually, a population-based study showed a mean annual incidence of metachronous CRC of 0.3% and a cumulative incidence of 1.1% at 3 years, 2.0% at 6 years, and 3.1% at 10 years.[6]

Data from the medical literature provided inconsistent results on the association between primary tumor localization (ie, proximal or distal to the splenic flexure) and the risk of metachronous CRC. Indeed, some reports suggest that patients with proximally located primary CRC have nearly twice the risk of a second cancer in the remnant colon developing during surveillance.[7] Conversely, other studies found that metachronous CRCs were more often diagnosed in the proximal than in the distal colon.[6] Scanty data are available in the literature regarding precancerous lesions detected during endoscopic surveillance, as most of the studies considered only cancer as the primary outcome measure or did not specify the localization of metachronous adenoma.[8-10] Available studies focusing on this issue did not find any difference with regard to adenoma detection rates (ADRs) according to the site of surgical resection (ie, left-sided colectomy [LCR] vs right-sided colectomy [RCR]).[11]

Nowadays, protocols for surveillance colonoscopy after colonic resection do not take into account a baseline risk stratification of patients.[2,12] However, the identification of subgroups at higher risk of metachronous precancerous lesions would allow defining tailored colonoscopy-based surveillance programs, thus improving their cost-effectiveness.

The current study was aimed at assessing the risk of the development of metachronous precancerous lesions according to the site of colonic resection in patients with colon cancer.

MATERIALS AND METHODS

This retrospective study was performed at 2 academic referral hospitals in Italy (S. Orsola-Malpighi University Hospital, Bologna, and Catholic University, Rome).

Patients with history of curative colonic resection for cancer undergoing colonoscopy between January 2011 and December 2013 were identified, and their colonoscopy records were retrieved. Patients with a diagnosis of Lynch syndrome, familial adenomatous polyposis, or inflammatory bowel disease, as well as patients with rectal cancer, were preliminarily excluded from the study. Both of the following inclusion criteria had to be satisfied: (1) clearing colonoscopy performed before surgical resection and (2) first surveillance colonoscopy already performed at 1 year after surgical resection. Demographic and endoscopic data were then extracted from the second surveillance colonoscopy, which was the subject of this study. In addition, data from the first surveillance colonoscopy, when available, were also extracted.

The quality of bowel cleansing is routinely rated at the 2 centers as excellent, good, fair, and inadequate, according to the validated Aronchik scale.[13] For the purpose of our study, only patients with excellent, good, and fair preparation (ie, >90% of mucosa visualized) were included.

The following data were extracted for each patient: age, sex, type of surgical resection (ie, LCR or RCR, defined as distal or proximal to the splenic flexure, respectively), time interval between surgical resection and colonoscopic examination, and number, size, and histology of resected polyps. According to the recent guidelines of the European Society of Gastrointestinal Endoscopy, serrated and tubular adenomas with high-grade dysplasia, adenomas with a villous component of at least 25%, serrated lesions, and adenomas with a diameter larger than 10 mm were considered advanced lesions. High-risk patients were considered those with at least 1 advanced lesion or 3 or more adenomas detected.[14] Serrated colorectal polyps were classified according to the World Health Organization recommendations for hyperplastic polyps, sessile serrated adenomas/polyps with or without cytological dysplasia, and traditional serrated adenomas[15,16]; metachronous cancers were also recorded. The study was approved by the institutional review board of each center.

Outcome measures

For the purpose of this study, we categorized the patients into 2 groups: those with a previous colonic resection proximal to the splenic flexure were included in the RCR group and those with colonic resection distal to the splenic flexure in the LCR group. The main outcome measure of the study was represented by the ADR in each group, defined as the proportion of subjects in whom at least 1 adenomatous lesion was identified at surveillance colonoscopy. Secondary outcome measures included the polyp detection rate (PDR), defined as the proportion of patients with at least 1 polyp; the advanced ADR, defined as the proportion of patients with at least 1 advanced adenoma; the serrated lesion detection rate, defined as the proportion of patients with at least 1 sessile serrated lesion adenoma; and the mean number of adenomas per patient, defined as the total number of detected adenomas in each group divided by the total number of patients and the mean number of polyps per patient, defined as the total number of polyps in each group divided by the total number of patients.

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