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# Short-term results of quality of life for curatively treated colorectal cancer patients in Lithuania

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ABSTRACT

*Background and objective:* Treatment options for colorectal cancer patients create the need to assess the quality of life (QoL) of colorectal cancer patients in the early postoperative period when changes are potentially greatest. The aim of the current study was to assess the QoL of colorectal cancer patients following open and laparoscopic colorectal surgery.

*Materials and methods:* A total of 82 consecutive patients requiring elective open or laparoscopic colorectal surgery were recruited to the study for 3 months in the three colorectal surgery centers of Lithuania. Patients completed the EORTC QLQ-C30 (version 3.0) questionnaire before surgery, 2 and 5 days, 1 and 3 months after operation. The EORTC QLQ-CR29 questionnaire was completed before surgery and at 1 and 3 months after operation. Analysis was done according to the manual for each instrument.

*Results:* EORTC QLQ-C30 reflected the postoperative recovery of QoL. The global health status, cognitive and emotional functioning came back to the preoperative level in one month after operation. Physical and role functioning for laparoscopic group was significantly improved in 1 month after operation and in 3 months for open surgery group respectively. Colorectal module EORTC-QLQ-CR29 found that future perspective increased significantly in laparoscopic group 1 month after operation.

*Conclusions:* The present study showed that majority of functional scale scores came back to the preoperative level during the first 3 months after colorectal cancer surgery. Differences in QoL according to surgical approach are mostly expressed on this period.



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## 1. Introduction

Modern approach to the treatment options for colorectal cancer patients creates the need of consideration of quality of life (QoL) in the short terms as well as in long terms after treatment. QoL should be included along with the assessment of survival, local or distant recurrence, treatment morbidity, toxicity, because it reflects the cost effectiveness of treatment. The European Organization for Research and Treatment of Cancer (EORTC) QoL questionnaire (QLQ) is an integrated system for assessing the health-related QoL of cancer patients. The QLQC30 is the core questionnaire for evaluating the QoL of cancer patients [1–3]. At the same time the EORTC-QLQ-C30 has been reported as more sensitive than other questionnaires in detecting the impairment of QoL in the early postoperative period [4]. This greater sensitivity was the main reason for us to use the EORTC-QLQ-C30 as an instrument to assess early postoperative changes of QoL in patients undergoing colorectal surgery. The QLQ-CR29 was developed after revising the QLQ-CR38 for a few years [5], and was demonstrated internationally to have both sufficient validity and reliability to support its use as a supplement to the EORTC QLQ-C30 to assess patient-reported outcomes during treatment for colorectal cancer in clinical trials and other settings [6]. However, most of the studies are focused on the evaluation of the QoL of colorectal cancer patients in long terms (3, 6, 12 months) after surgical treatment, especially those who are assessing the different approaches of surgery – open and laparoscopic [7,8]. It is expected that patients recover their preoperative conditions much earlier and most expressed differences between surgical approaches with respect to QoL are potentially greatest in the early postoperative period. There are some studies that analyzed QoL in the early postoperative period after colorectal surgery [9,10], but they use different instruments for the assessment of self-reported health status.

The primary aim of current study was to assess the QoL of colorectal cancer patients in the early postoperative period, including different treatment modalities in a prospectively collected cohort, using EORTC QLQ-C30 and QLQ-CR29.

## 2. Materials and methods

Consecutive patients requiring elective colorectal surgery were recruited to the study for 3 months between September 1, 2012, and December 1, 2012, in the Centre of Abdominal Surgery, Vilnius University Hospital Santariškių Klinikos; Centre of Oncosurgery, Institute of Oncology Vilnius University; and Hospital of Lithuanian University of Health Sciences Kauno Klinikos. Informed consent was taken, and baseline demographic information was collected by means of patient interview preoperatively. Clinical and operative details, American Society of Anesthesiologists (ASA) grade, diagnosis, operation type (right, left, or rectal procedure), and presence of a stoma (or not) were also recorded. All patients with endoscopically and histologically confirmed colorectal cancer were eligible for the study, except those admitted as an emergency, younger than 18 years, or unable to consent. Surgery consisted of laparoscopic or open resection procedure including right hemicolectomy, left hemicolectomy, sigmoid colectomy, anterior rectal resection, abdominoperineal resection or subtotal colectomy.

Validated Lithuanian translations of the EORTC QLQ-C30 (version 3.0) and QLQ-CR29 questionnaires were used in current study. For both instruments individual scores were converted to a score ranging from 0 to 100, according to the EORTC manuals. A high score for the symptom/item scales represented a high level of symptoms/problems related to specific colorectal surgery, whereas a high score for the functional scales and the global health/general quality-of-life index represented a high level of functioning, overall health and quality of life. For items without a response, at least 75% of items completed by patients were considered assessable in the current study, and the mean was imputed for missing items in assessable cases according to EORTC scoring guidelines.

Patients were asked to complete the EORTC QLQ-C30 questionnaire one day before surgery, 2 and 5 days, 1 and 3 months postoperatively.

The QLQ-CR29 questionnaire was completed one day before surgery, 1 and 3 months after operation, respectively, because some functions such as sexual, defecation problems are unavailable to evaluate correctly during first week after operation.

For indicative purposes the results of EORTC QLQ-C30 and QLQ-CR29 questionnaires were evaluated for all patients and separately compared between laparoscopic and conventional approach groups.

### 2.1. *Statistical analysis*

All statistical analysis of relevant clinical outcome measures and differences between EORTC questionnaire scores in the different time points was carried out using SPSS 12 software (IBM, Armonk, New York, USA). Means and SD were calculated for parametric data. Baseline demographic and clinical characteristics of patients in the laparoscopic and open surgery groups were compared by using the chi-square test and the Mann Whitney *U* test. Mean Qol scores were compared within groups at the different time points using the Wilcoxon test. $P < 0.05$ was considered statistically significant. Missing data were handled as instructed in the EORTC scoring manual.

## 3. Results

From September 2012 to November 2012, 82 patients undergoing elective colorectal cancer resection in three surgical centers were included in this study. There were 43 men and 39 women with a mean age of 64.75 years. The mean preoperative ASA score was 2.1. Complications occurred in 14 (17%) cases, and the mean hospitalization stay was $10.55 \pm 5.28$ days. There were no differences between groups at baseline with respect to ASA grade, gender, and TNM stage of cancer. Laparoscopic procedures were performed significantly more frequently for younger patients. Stoma was constructed significantly more often in the patients of the open group (Table 1). After open procedures, patients stayed longer in the hospital, but the difference was not significant. There were no differences in the postoperative complication rate between