



# Assessment of Quality of Life Before and After Ileostomy Reversal After Low Anterior Resection for Rectal Cancer

Nurullah Damburaci, Baris Sevinc

Uşak University Medical School, Department of General Surgery, Uşak, Türkiye

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial-NonDerivatives 4.0 International License.



## Abstract

**Aim:** Low Anterior Resection Syndrome negatively affects patients' quality of life after surgery for rectal cancer. Temporary loop ileostomy is preferred to avoid anastomosis leakage related problems. Aim of this study is to evaluate Patients' quality of life before and after ileostomy reversal.

**Material and Methods:** Patients with laparoscopic low anterior resection with protective loop ileostomy were included in the study. Before and after the reversal of the ileostomy quality of life assessment was done by EORTC QLQ-C30 scale.

**Results:** Sixty two patients with temporary loop ileostomy after laparoscopic low anterior resection for rectal cancer were included in the study. Our study population showed better results in General health scale and social function scale after ileostomy reversal. However; there is no significant difference in general function and general symptom scale.

**Conclusion:** Temporary ileostomy can negatively affect patients' quality of life and patients have higher quality of life scores after ileostomy reversal.

**Keywords:** Rectal cancer, low anterior resection, quality of life, ileostomy

## INTRODUCTION

Technological developments in surgical equipment changed the nature of rectal surgery. Sphincter sparing surgery became gold standard in low and very low rectal cancer. Although, staplers used for anastomosis enables surgeons to make ultra-low colo-anal anastomosis, leakage still remains a major problem (1). Thus, temporary loop ileostomy is very common to avoid leakage related complications.

Rectal surgery itself, seriously affect patients' quality of life. Frequency, urgency, incontinence and loose stools are common problems faced by the patients. Low Anterior Resection Syndrome is defined to demonstrate the undesired results of especially ultra-low rectal resections (2). Loop ileostomy prevents passage of loose stool though low anastomosis and low anterior resection related symptoms. After ileostomy reversal patients face those common problems.

There are many scales developed to assess the Quality of Life (QoL). QLQ-C30 scale is developed by The European Organisation for Research and Treatment of Cancer (EORTC) to evaluate patient reported, cancer related QoL (3).

The aim of this study is to evaluate patients' health related quality of life before and after ileostomy reversal.

## MATERIAL AND METHOD

After approval from local ethical committee study was conducted in Uşak Training and Research Hospital. Patients undergone laparoscopic low anterior resection for rectal cancer between January 2018 and January 2022 were included in the study. Abdominoperineal resections, high anterior resections (above peritoneal reflection) were not included to make a standard evaluation. Patients with no temporary loop ileostomy were not included in the study.

## CITATION

Damburaci N, Sevinc B. Assessment of Quality of Life Before and After Ileostomy Reversal After Low Anterior Resection for Rectal Cancer. Med Records. 2023;5(Suppl 1) 174-6. DOI:1037990/medr.1355697

**Received:** 05.09.2023 **Accepted:** 03.10.2023 **Published:** 13.10.2023

**Corresponding Author:** Nurullah Damburaci, Uşak University Medical School, Department of General Surgery, Uşak, Türkiye

**E-mail:** nurullahdamburaci@gmail.com

Patients completed EORTC QLQ-C30 questionnaire just before and 2 months after ileostomy reversal. All ileostomies were reversed six months after the primary surgery. QLQ-C30 scale consists of 28 four scale and two six scale questions divided in to three main domains as functional, symptom related and general health scores. All of the scales and single-item measures range in score from 0 to 100. A high scale score represents a higher response level. Thus a high score for a functional scale represents a high/healthy level of functioning, a high score for the global health status represents a high QoL, but a high score for a symptom scale represents a high level of symptomatology. General Health Scale (GHS), Social Function Scale (SFC), General Symptom Scale (GSS), Fatigue Scale (FAS) and General Function Scale (GFS) were calculated according to EORTC manual (4). The validation study of the Turkish version of QLQ-C30 scale was performed by Akduran F et al. (5).

There were 64 patients included in the study. Two cases excluded from study because of non-closure of loop ileostomy due to recurrent disease. Sixty-two patients were included in the final analysis.

IBM SPSS version 22.0 software was used for statistical analysis. Categorical data was presented as percentages and chi-square test was used for comparison. Quantitative data was presented as mean±standard deviation and Student T test was for comparison. A p value of 0.05 was accepted as statistical significance point.

## RESULTS

The mean age of the patients was 67.4±11.8. There was 28 male and 34 female patients. Cancer stages were also evaluated and 62.9% of the cases had stage 2 rectal cancer. Sixteen (25.8%) patients had neoadjuvant radiotherapy. Sociodemographic data of the patients were presented in Table 1.

Age (mean±sd)		67.4±11.8
Gender	Male	45.2% (n:28)
	Female	54.8% (n:34)
Tumor stage	1	16.1% (n:10)
	2	62.9% (n:39)
	3	19.4% (n:12)
	4	1.6% (n:1)
Radiotherapy	Yes	25.8% (n:16)
	No	75.2% (n:46)

General health scale significantly increased from 46.8±2.1 to 53.9±1.6 after ileostomy reversal (p=0.003). Mean social function scale was 55.4±2.6 before ileostomy reversal and increased to 72±1.5 after colostomy reversal (p<0.001). General symptom scale and general functional scale showed no significant difference before and after ileostomy reversal. Differences in QLQ subdomains are presented in Table 2.

Table 2. Mean scores obtained from QLQ-C30 questionnaire before and after ileostomy reversal

	Before ileostomy reversal	After ileostomy reversal	Difference	p
GHS	45.8±2.1	53.9±1.6	-8.02	0.003
GFS	49.2±1.9	50±1.8	-0.82	0.763
SFS	55.4±2.6	72±1.5	-16.61	0.001
GSS	46.1±2.06	47.4±1.2	1.24	0.584
FAS	59.8±2.4	76.3±1.1	-16.48	0.001

GHS: General Health Scale, GFS: General Functional Scale, SFS: Social Function Scale, GSS: General Symptom Scale, FAS: Fatigue Scale

In multivariate analysis age, gender, preoperative radiotherapy and tumor stage showed no difference in any domain of the QLQ questionnaire.

## DISCUSSION

Nature of the rectal surgery dramatically affects patients' quality of life. Especially after the introduction of low and ultra-low anterior resections with colo-anal anastomosis negative aspect of the rectal surgery became more apparent. Increased stool frequency, loose stool, anal incontinence and incomplete emptying of the rectum are frequent symptoms related to Low Anterior Resection Syndrome (LARS). In most of the cases LARS is thought to be caused by absence of rectum and it's concentrating function. However, LARS can be seen even in right sided hemicolectomy. In right sided hemicolectomy, LARS development is thought to be dissection of nerves and removal of ileocecal valve (6,7). Even, Meurs et al suggested a new name to LARS as Colorectal resection syndrome.

In our study we found no significant difference in general functional scale and general symptom scale before and after ileostomy reversal. Studies evaluating QoL after rectal surgery with stoma commonly report bad QoL scores with stoma. Most of the studies report bad results in self-respect, depression, sexual problems, psychosocial adaptation and poor body image perception (8). Similarly our study demonstrates better QoL scores after ileostomy reversal.

In low anterior resection ileostomy is temporarily opened for protection against anastomosis leakage. Erarlu and late reversal of ileostomy is compared by Dulskas et al. (9). They found no difference in quality of life according to ileostomy reversal time. In our study ileostomy reversal time kept standard to prevent time caused differences in QoL. Even with standard closure time there were better results in general health scale and functional scale after ileostomy reversal.

Common aspect is poor results with stoma surgery. However, in patients with permanent stoma after surgery for inflammatory bowel disease; Deputy et al. reported high satisfaction and good quality of life results (10). According to their findings we can result that our findings of no difference in general functional scale and general symptom scale are similar with the literature. Loop

ileostomy does not have any effect on patient's perception of general functions.

Similarly Zevude et al. reported no difference in quality of life of patients with stoma (11). Main idea relying beyond this study is appearance of LARS after ileostomy reversal. However, after ileostomy reversal patients' QoL does adversely affected. They showed improvement in general health scale and social functional scale.

Main limitation of the current study is it does not involve all cases with rectal cancer and have a short follow up time. There is need for studies with longer follow up to better determine long term effects of LARS.

## CONCLUSION

In conclusion, after low anterior resection for rectal cancer, patients' quality of life is positively affected after closure of temporary loop ileostomy.

**Financial disclosures:** The authors declared that this study has received no financial support.

**Conflict of Interest:** The authors declare that they have no competing interest.

**Ethical approval:** The study was approved by the local ethical committee with 71-16-11 decision number on 12.07.2017.

## REFERENCES

1. Christensen P, Im Baeten C, Espin-Basany E, et al. Management guidelines for low anterior resection syndrome - the MANUEL project. *Colorectal Dis.* 2021;23:461-75.
2. Nguyen TH, Chokshi RV. Low anterior resection syndrome. *Curr Gastroenterol Rep.* 2020;22:48.
3. Gujral S, Conroy T, Fleissner C, et al. Assessing quality of life in patients with colorectal cancer: an update of the EORTC quality of life questionnaire. *Eur J Cancer.* 2007;43:1564-73
4. Fayers PM, Aaronson NK, Bjordal K, Groenvold M, Curran D, Bottomley A, on behalf of the EORTC Quality of Life Group. *The EORTC QLQ-C30 Scoring Manual (3rd Edition).* Published by: European Organisation for Research and Treatment of Cancer, Brussels 2001.
5. Akduran F, Durna Z. Turkish validation and reliability of the EORTC QLQ-CR29 Quality of Life Scale for colorectal cancer. *Turk J Gastroenterol.* 2021;32:357-64.
6. Meurs J, Dumoulin X, De Sutter N, et al. Low anterior resection syndrome (LARS) and quality of life after colectomy. *Int J Colorectal Dis.* 2023;38;180.
7. Ridolfi TJ, Berger N, Ludwig KA. Low anterior resection syndrome: current management and future directions. *Clin Colon Rectal Surg.* 2016;29:239-45.
8. Ayaz-Alkaya S. Overview of psychosocial problems in individuals with stoma: a review of literature. *Int Wound J.* 2019;16:243-9.
9. Dulskas A, Petrauskas V, Kuliavas J, et al. Quality of life and bowel function following early closure of a temporary ileostomy in patients with rectal cancer: a report from a single-center randomized controlled trial. *J Clin Med.* 2021;10:768.
10. Deputy M, Worley G, Patel K, et al. Long-term outcome and quality of life after continent ileostomy for ulcerative colitis: a systematic review. *Colorectal Dis.* 2021;23:2286-99.
11. Zevude WC, Derese T, Suga Y, Teklewold B. Quality of life in patients living with stoma. *Ethiop J Health Sci.* 2021;31:993-1000.