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ORIGINAL PAPER

Quality of life at home and satisfaction of patients after enhanced recovery protocol for colorectal surgery*

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ABSTRACT

Background: Quality of life of patients at home after an enhanced recovery protocol (ERP) for surgery has been least studied especially in elderly patients.

Methods: Our first 41 patients entered in the colorectal GRACE database were interviewed through telephone about their postoperative stress, fatigue, pain, difficulty in feeding, home autonomy, and satisfaction. We compared the responses of the elderly patients (>70 years, $n = 19$) with those of the younger patients.

Results: The time between the surgery and the questionnaire was 79 ± 48 days. Early return was experienced as stressful by ±20% of the patients. Fatigue and pain were low (respectively: simple numerical scale [SNS] = 4.2 ± 3.2 and 2.5 ± 2.9). When present, pain was relieved by the prescribed treatment. One-third of the patients described some difficulty in feeding. Fifty percent of the patients felt completely autonomous when returned at home, 80% attributed the rapid recovery of autonomy to the ERP. Finally, 87% were globally satisfied (SNS: 8.5 ± 1.0). The characteristics of the 'elderly' group (77 ± 6 years) and their questionnaire responses were similar to those of the younger patients.

Conclusions: Despite some limitations (retrospective, different time between surgery and the telephone survey), our study suggests that quality of life at home after ERP for colorectal surgery is very satisfactory for over 80% of patients. Furthermore, this study confirms that elderly patients benefit from an ERP for colorectal surgery like younger patients.

Abbreviations: ERP: Enhanced recovery protocol; GRACE: Groupe francophone de Réhabilitation Améliorée après ChirurgiE (in English: Francophone Group for Enhanced Rehabilitation after Surgery); SNS: Simple numerical scale

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Introduction

Enhanced recovery protocol (ERP) after surgery was first described by Henrik Kehlet in 1997 [1] as 'fast-track surgery'. Indeed, ERP after colorectal surgery allows to significantly reduce the length of hospital stay [2–5]. The economic benefits are obvious [6]. However, the initial concept of 'fast' rehabilitation has since evolved into the concept of 'enhanced' recovery, the main motivation residing more in accelerating postoperative recovery of the patients included in these protocols than in reducing the duration of hospitalization [7,8]. More importantly, ERP helps reduce by 40% the incidence of general postoperative complications without negative impact on the risk of surgical complications [9,10]. Despite all this data, implementation of ERP for colorectal surgery still encounters obstacles [11,12].

The willingness to shorten the hospital stay at any cost can raise questions about the quality of life of the patient after a fast return at home, especially of the elderly patients [13]. Indeed, few studies have investigated the comfort and the quality of life of patients after an enhanced recovery protocol [14]. The aim of this study was to evaluate the feelings and satisfaction of patients when at home after an ERP for colorectal surgery. A particular attention was devoted to elderly patients, in whom the efficiency and safety of ERP were questionable [15].

Materials and methods

This retrospective study was approved by the Ethics Committee of the University Hospital of Liège, Belgium (Chairman: Prof. V. Seutin, ref 2016/189) (ClinicalTrials.gov: NCT02824783).

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We interviewed through telephone our first 41 patients included in the GRACE database (Francophone Group for Enhanced Rehabilitation after Surgery; 9 allée de Riboulet, 63110 Beaumont, France; www.grace-asso.fr) after they returned at home after an ERP for colorectal surgery. Patients were operated between the 1st of October 2015 and the 29th of February 2016. The questionnaire (Appendix 1) evaluates eight different domains: information, stress, feeling at the time of hospital discharge, fatigue, pain, feeding difficulties, autonomy, and satisfaction at home.

The responses to this survey by elderly patients aged over 70 years were compared with those of the younger patients to determine whether older patients experienced this postoperative period differently. Data represent mean ± standard deviations or medians. Comparisons between elderly and younger patients used the Students *t*-test or chi-square. $p \leq .05$ was considered statistically significant.

Results

The time between the surgery and the questionnaire was 79 ± 48 days. One patient died between returning home and the telephone call. Demographic, surgical characteristics, and the rate of complications [16] of patients are summarized in Table 1. Except for age, there was no significant difference between the elderly and younger patients.

Patient information

While 82% of patients actually received oral and written information about the ERP using documents provided by GRACE, only 60% said being informed. Half of the patients would have liked more information.

Stress secondary to ERP

All patients under 70 years and 88% of the elderly were not anxious to participate to a ERP. The announcement of the hospital discharge was experienced as stressful by 24% of patients (18% of elderly, 28% of the younger; [$p = .4$]). Once at home, the stress disappeared in elderly, but persisted in more patients of the other group (6% vs. 24%; $p = .20$).

Feeling when leaving the hospital

At the time of hospital discharge, one-third of the patients, regardless of their age, were surprised to be allowed to leave the hospital and did not feel fit to go home. Once at home, only one patient regretted this early return.

Fatigue

Fatigue was assessed on a simple numeric scale (SNS) from 0 to 10 at 4.2 ± 3.2 (median = 5) in the total population and 4.3 ± 3.5 (median = 5) in elderly. One patient considered that a longer hospitalization would have reduced postoperative fatigue.

Pain

In patients under 70 years, the intensity of pain on a 0–10 SNS was 2.5 ± 2.9 (median = 2). It was significantly lower in elderly: 1.6 ± 2.8 (median = 0; $p = .047$). In case of pain, 80–85% of patients reported satisfactory relief with the oral treatment prescribed. Three patients in the younger group said that a longer hospitalization would have allowed a better control of their pain.

Resumption of feeding

Eighty-one percent of the patients in both groups were satisfied by the quick postoperative resumption of diet. One-third of patients of both groups described some difficulty in eating normally (lack of appetite, dysgeusia, feeling of fullness) at home. Only 20% of these considered that a more gradual resumption of diet would have prevented these discomforts.

Table 1. Characteristics of the population.

	Population	<70 years old	≥70 years old
Age	65.7 ± 13.7	56.2 ± 11.1	76.7 ± 5.8
Sex (M/F)	23/18	11/11	12/7
BMI (kg/m^2)	26.0 ± 5.6	23.4 ± 4.4	28.0 ± 6.0
Scopy/Tomy (n)	22/19 (59%)	15/7 (68%)	10/9 (53%)
Right/left/total colectomy/proctectomy	8/26/2/5	1/16/2/3	7/10/0/2
Stoma (Y/N)	6/35 (15%)	5/17 (22%)	1/18 (6%)
Length of stay (days)	5.4 ± 4.9 [4]	5.0 ± 2.9 [5]	6.0 ± 6.0 [3.5]
Complications (Y/N)	13/28 (32%)	5/17 (22%)	8/11 (42%)
Redo surgery (Y/N)	3/38 (7%)	2/20 (10%)	1/18 (5%)

Autonomy

Half of the patients, whatever the group, claimed full recovery of their autonomy. Eighty-nine percent were satisfied with their autonomy at home. Seventy-nine percent attributed their fast recovery to the ERP.

Satisfaction

Eighty-seven percent of patients in both groups were satisfied with their care. Satisfaction assessed on a 0–10 SNS was 8.5 ± 1.0 (median 8.75) in the younger group, and 8.4 ± 0.9 (median $= 9$) in the elderly. The satisfaction reported is independent on the time elapsed between surgery and the questionnaire ($r^2 < .0001$, $p = .96$). Only two patients blamed the fast track for their postoperative complications.

Discussion

This survey suggests that once at home, the patients who underwent an ERP for colorectal surgery reported a satisfactory quality of life and comfort. Specifically, postoperative pain and fatigue were low, and global satisfaction about postoperative management was very high. Overall, the responses of the elderly were similar to patients under 70 years. Age should not therefore be a criterion to exclude patient from the ERP or to delay hospital discharge of elderly included in a ERP for colorectal surgery.

Our results are consistent with other studies that described short-term faster and improved postoperative convalescence at home in case of ERP [17,18]. Preoperative quality of life would be restored after one week [19]. ERP also improves patient satisfaction [20].

While 82% of patients actually received oral and written information, one-quarter of them yet reported not having received any information. Given the importance of patient information for the success of ERP [21,22], this observation should encourage the repetition of information throughout the hospital stay. Although only half of patients reported having recovered full autonomy, 90% were nevertheless satisfied with their autonomy. One-third of patients reported difficulty in eating at home. Gillis et al. also described food intake lower than the needs as well as inadequate postoperative protein intake in one third of patients [23].

Finally, the results of this survey in the elderly confirm that they benefit from ERP like younger patients. Hospital stay and complication rates were reduced by ERP as in non-elderly patients [24]. The quality of life at home was considered satisfactory by the elderly. They complained of less pain than younger patients.

Our survey has some limitations. This is a retrospective study. The time between the hospital discharge and the day of the survey was variable; there is however no effect of this time period and the reported satisfaction. Using telephone rather than postal questionnaire could have influenced patient responses. Finally, our results deserve to be confirmed by a study including more patients.

Conclusions

This survey demonstrates that early hospital discharge of patients undergoing colorectal surgery with ERP does not occur at the expense of the quality of life at home. Instead, these patients describe a high feeling of satisfaction. Finally, elderly patients, theoretically more vulnerable, report the same feelings as younger patients.

Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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Appendix 1. Survey of patient satisfaction after colorectal surgery with an enhanced recovery protocol (ERP).

Survey of patient satisfaction after colorectal surgery with an enhanced recovery protocol (ERP)

Dear,
You recently were operated on a colorectal surgery with an enhanced recovery program. With regards this program, we would like to assess your satisfaction. Would you mind to answer these questions?

Information			
1) Were you aware of participating to an enhanced recovery protocol?	Yes	No	N/A
2) Were you aware of the benefits of this enhanced recovery protocol?	Yes	No	N/A
3) Did you receive enough information about this program from the medical team?	Yes	No	N/A
Stress			
4) Did you feel anxious about your participation to an enhanced recovery protocol?	Yes	No	N/A
5) Were you stressed when you were discharged from the hospital?	Yes	No	N/A
6) Were you stressed when back at home after hospital discharge?	Yes	No	N/A
Feeling at the time of hospital discharge			
7) Were you surprised when you were allowed to return home?	Yes	No	N/A
8) Did you feel capable to go back home?	Yes	No	N/A
9) When at home, did you regret your early hospital discharge?	Yes	No	N/A
Fatigue			
10) What was the intensity of your fatigue at home?	**SNS 0–10** 0 = no fatigue 10 = the worst possible fatigue		
11) Do you think your fatigue would have been less if you had stayed longer at the hospital?	Yes	No	N/A
12) Do you think that our global management allowed to reduce your postoperative fatigue?	Yes	No	N/A
Pain			
13) Did you feel pain once back at home? If yes, what was the intensity of your pain?	**SNS 0–10** 0 = no pain 10 = worst possible pain		
14) Was your pain controlled with the treatment prescribed at the time of hospital discharge?	Yes	No	N/A
15) Do you think you would have had better pain control if you had stayed longer at the hospital?	Yes	No	N/A
Resumption of feeding			
16) Are you satisfied with the time period between your surgery and the resumption of feeding?	Yes	No	N/A
17) Did you experience difficulty in eating once back at home?	Yes	No	N/A
18) If yes, do you think these difficulties would have been prevented by a more gradual resumption of diet?	Yes	No	N/A
Autonomy			
19) When back at home, did you feel capable to take care of yourself alone?	Yes	No	N/A
20) Are you satisfied with the time period between your surgery and the recovery of autonomy?	Yes	No	N/A
21) Do you consider our global management allowed to speed up the recovery of your autonomy?	Yes	No	N/A
Satisfaction			
22) Were you satisfied about the length of your hospital stay	Yes	No	N/A
23) How do you rate your satisfaction about our management?	**SNS 0–10** 0 = not satisfied 10 = totally satisfied		
24) If you had postoperative complication, do you think this resulted from a too rapid management of care?	Yes	No	N/A