Patient activation mitigates the impact of low anterior resection syndrome on postoperative quality of life following proctectomy

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Abstract

Background : Bowel dysfunction occurring after proctectomy, called low-anterior resection syndrome (LARS), is common and may significantly impair patients' quality of life (QOL). Previous work has demonstrated that LARS severity does not always correlate with QOL impairment. This could be related to variation in individuals' ability to manage their symptoms (i.e. activation level). The objective of this study is to explore whether patient activation may affect the relationship between LARS and its impact on QOL.

Method : A prospective database of adult rectal cancer patients undergoing restorative proctectomy from a single high-volume university center from 09/2018-01/2023 was queried. Patients were excluded if they still had a stoma or had less than 6 months of follow-up. Included individuals were administered the study instruments at their standard surveillance visit : patient-reported bowel-related quality of life (BQOL) impairment, patient activation measure (PAM) and (LARS) score.

Results : Overall, 124 patients were included (mean age 61.3 years (SD10.5), 69% male, 9.3cm mean distance from anal verge (SD5.5), 47% received neoadjuvant radiotherapy, 4.6 years median follow up (IQR2.2). There were 100 (80.6%) patients with no/minor LARS, and 24 (19.4%) with major LARS. High PAM was seen in 69 (55.6%). There was no difference in age, stage, neoadjuvant radiation, anastomotic configuration or stoma creation in low vs high PAM groups, however there were significantly more males in the low PAM group (78% vs 61%, p=0.04). In patients with no/minor LARS, a low PAM score was associated with more BRQOL impairment (Table 1)). In patients with major LARS, there was no association between PAM level and BRQOL impairment.

Conclusions : In patients with rectal cancer, a higher level of patient activation may help mitigate the effect of minor bowel dysfunction on bowel-related quality of life. These results may help patients and physicians improve shared decision-making by allowing them to better identify those for whom bowel dysfunction may have more impact on QOL.

Low anterior resection syndrome

- Low anterior resection syndrome (LARS) is extremely common after proctectomy. It is a constellation of symptoms including frequency, urgency, clustering, gas incontinence, and incontinence of liquid stools, captured through the LARS score (based on a 5-item questionnaire).
- Possible scores range from 0 to 42 points, and patients are usually categorized as having no LARS (0–20 points), minor LARS (21–29 points), and major LARS (30–42 points).

Bowel-related quality of life

- Bowel-related health-related quality of life impairment is measured using the bowel-related quality of life (BRQOL) instrument.
- This single-item tool asks subjects: "Overall how does your bowel function affect your quality of life?". A four-level response scale is used ("not at all", "very little", "somewhat", and "a lot.").
- Participants are then categorized as having no impairment ("not at all"), minor impairment ("very little" or "somewhat") and major impairment ("a lot").

Patient activation measure

- The Patient Activation Measure (PAM) is designed to assess an individual's knowledge, skills and confidence for managing one's health.
- 13-item questionnaire using 5-point Likert scales. A score is calculated through hierarchical item calibration using the licensed PAM Survey Calculator.
- Patients are dichotomized as having a low (<55.1) or high (>55.1) PAM scores.

Putting it together

- While prior work had shown LARS severity to be associated with decreased quality of life, recent work showed a poor association between the two outcomes.
- The objective of this study is to investigate whether PAM could be mitigating the effect of LARS symptoms on patients' quality of life.
- Patients who are more proactive in the management of their own health (i.e. have a higher PAM) may develop strategies allowing them to deal more efficiently with LARS, therefore decreasing its impact on their quality of life.

Patients' characteristics

	Low PAM (n=55)	High PAM (n= 69)	p
Age (mean (SD))	63.17 (8.54)	59.67 (11.81)	0.067
Sex (male, %)	43 (78.2)	42 (60.9)	**0.039**
Neoadjuvant radiotx (n, %)	24 (43.6)	36 (52.2)	0.345
Stoma (n, %)	27 (49.1)	29 (42.0)	0.432
Configuration (n, %)			0.443
End-to-end	7 (12.7)	8 (11.6)	
Side-to-end	39 (70.9)	40 (58.0)	
J-pouch	2 (3.6)	6 (8.7)	
End-to-side	0 (0.0)	1 (1.4)	
NA	7 (12.7)	14 (20.3)	
T stage (n, %)			0.051
TX	0 (0.0)	2 (2.9)	
T0	4 (7.3)	7 (10.1)	
Tis	1 (1.8)	0 (0.0)	
T1	9 (16.4)	3 (4.3)	
T2	17 (30.9)	21 (30.4)	
T3	19 (34.5)	20 (29.0)	
T4	2 (3.6)	2 (2.9)	
NA	3 (5.5)	14 (20.3)	
N stage (n, %)			0.148
NX	1 (1.8)	1 (1.4)	
N0	35 (63.6)	32 (46.4)	
N1-N2	14 (25.5)	22 (31.9)	
NA	5 (9.1)	14 (20.3)	

Table 1 : Association between PAM and BRQOL impairment in patients with no or minor LARS (n=100)

	No impairment in BRQOL (n=32)	Minor impairment in BRQOL (n=54)	Major impairment in BRQOL (n=14)
High PAM (n=54)	18 (33%)	33 (61%)	3 (6%)
Low PAM (n=46)	14 (30%)	21 (46%)	11 (24%)

P = 0.028

Table 2 : Association between PAM and BRQOL impairment in patients with major LARS (n=24)

	No impairment in BRQOL (n=6)	Minor impairment in BRQOL (n=15)	Major impairment in BRQOL (n=3)
High PAM (n=15)	4 (27%)	9 (60%)	2 (13%)
Low PAM (n=9)	2 (22%)	6 (67%)	1 (11%)

P = 0.948

Conclusion and future direction

- In this cohort, a high level of patient activation was associated with better bowel-related quality of life among patients with no/minor LARS.
- For patients with severe LARS however, this effect was lost.
- Further work will be necessary to evaluate whether preoperative interventions aimed at improving patient activation may contribute to improved post-operative quality of life following proctectomy.

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