

**Supplemental Digital Content 2. Univariable logistic regression of constipation, fecal incontinence, and major LARS**

Variables	Constipation		Fecal incontinence		Major LARS	
	Odds ratio (95% CI)	<i>p</i> value	Odds ratio (95% CI)	<i>p</i> value	Odds ratio (95% CI)	<i>p</i> value
<b>Anastomotic height (cm)</b>	1.10 (1.05 – 1.14)	<0.001**	0.87 (0.82 – 0.91)	<0.001**	0.85 (0.80 – 0.89)	<0.001**
<b>Sex</b>						
Men	Reference		Reference		Reference	
Women	1.35 (0.96 – 1.91)	0.088	0.75 (0.51 – 1.10)	0.139	0.82 (0.58 – 1.18)	0.285
<b>Age at surgery (years)</b>	1.00 (0.98 – 1.02)	0.824	0.98 (0.96 – 1.00)	0.026*	0.99 (0.97 – 1.01)	0.149
<b>Follow-up (months)</b>	1.00 (1.00 – 1.01)	0.302	1.00 (1.00 – 1.01)	0.525	1.00 (1.00 – 1.01)	0.486
<b>BMI at surgery (kg/m<sup>2</sup>)</b>	1.00 (0.96 – 1.05)	0.911	1.01 (0.96 – 1.06)	0.669	1.03 (0.98 – 1.07)	0.257
<b>ASA score at surgery</b>	1.32 (1.01 – 1.74)	0.046*	0.76 (0.56 – 1.02)	0.065	1.00 (0.76 – 1.32)	0.995
<b>Charlson comorbidity index at surgery</b>	1.19 (0.91 – 1.58)	0.209	0.86 (0.62 – 1.21)	0.389	0.87 (0.63 – 1.19)	0.367
<b>Previous lower abdominal surgery</b>						
No	Reference		Reference		Reference	
Yes	1.10 (0.74 – 1.62)	0.640	1.23 (0.81 – 1.85)	0.329	1.44 (0.98 – 2.11)	0.064
<b>Previous upper abdominal surgery</b>						
No	Reference		Reference		Reference	
Yes	0.82 (0.44 – 1.53)	0.533	1.06 (0.56 – 2.00)	0.861	1.05 (0.58 – 1.91)	0.875
<b>Smoking</b>						
No	Reference		Reference		Reference	
Yes, or recently quit	1.06 (0.67 – 1.68)	0.799	1.15 (0.70 – 1.88)	0.589	0.86 (0.53 – 1.38)	0.520
<b>Tumor stage (UICC)</b>						
I - II	Reference		Reference		Reference	
III - IV	1.18 (0.82 – 1.69)	0.367	1.19 (0.81 – 1.75)	0.375	0.94 (0.65 – 1.36)	0.726
<b>Distant metastasis</b>						
No	Reference		Reference		Reference	
Yes	0.76 (0.41 – 1.40)	0.377	0.79 (0.41 – 1.53)	0.482	1.41 (0.80 – 2.48)	0.238
<b>Radiotherapy</b>						
No	Reference		Reference		Reference	
Neoadjuvant short course	0.65 (0.43 – 0.96)	0.032*	3.72 (2.37 – 5.84)	<0.001**	6.06 (3.93 – 9.33)	<0.001**
Neoadjuvant long course	0.58 (0.36 – 0.93)	0.025*	4.33 (2.63 – 7.14)	<0.001**	4.35 (2.67 – 7.10)	<0.001**
<b>Adjuvant chemotherapy</b>						
No	Reference		Reference		Reference	
Yes	1.65 (1.09 – 2.52)	0.019*	0.84 (0.52 – 1.36)	0.478	0.51 (0.31 – 0.84)	0.008*
<b>Years since last radiotherapy</b>	1.02 (0.90 – 1.16)	0.713	1.08 (0.96 – 1.21)	0.188	1.02 (0.91 – 1.14)	0.748
<b>Years since last chemotherapy</b>	1.01 (0.89 – 1.15)	0.867	1.07 (0.94 – 1.22)	0.302	1.08 (0.95 – 1.23)	0.217
<b>Setting</b>						
Elective	Reference		Reference		Reference	
Emergency	1.92 (0.82 – 4.53)	0.135	0.48 (0.14 – 1.65)	0.244	0.23 (0.05 – 0.98)	0.048*
<b>Surgical approach</b>						
Open	Reference		Reference		Reference	
Laparoscopic	1.37 (0.95 – 1.98)	0.093	0.66 (0.45 – 0.97)	0.032*	0.70 (0.49 – 1.01)	0.056
Conversion	0.93 (0.46 – 1.86)	0.837	0.64 (0.31 – 1.31)	0.222	0.84 (0.44 – 1.62)	0.607

<b>Method of anastomosis</b>						
Hand-sewn	Reference		Reference		Reference	
Stapled	0.90 (0.41 – 1.97)	0.798	1.35 (0.54 – 3.36)	0.524	6.46 (1.52 – 27.40)	0.011*
<b>Type of anastomosis</b>						
Side-to-end	Reference		Reference		Reference	
Side-to-side	0.66 (0.21 – 2.05)	0.476	0.61 (0.17 – 2.16)	0.444	0.49 (0.14 – 1.74)	0.271
End-to-end	1.21 (0.77 – 1.92)	0.412	0.98 (0.59 – 1.62)	0.938	1.33 (0.84 – 2.09)	0.227
<b>Temporary stoma</b>						
No	Reference		Reference		Reference	
Yes	0.65 (0.46 – 0.92)	0.014*	2.52 (1.72 – 3.69)	<0.001**	3.56 (2.46 – 5.16)	<0.001**
<b>Anastomotic leakage</b>						
No	Reference		Reference		Reference	
Yes	1.07 (0.53 – 2.18)	0.845	3.18 (1.62 – 6.22)	0.001**	2.34 (1.20 – 4.57)	0.013*
<b>Reoperation</b>						
No	Reference		Reference		Reference	
Yes	0.90 (0.41 – 2.00)	0.804	1.22 (0.55 – 2.69)	0.627	1.43 (0.68 – 2.98)	0.346

\* Statistical significance of  $p < 0.05$

\*\* Statistical significance of  $p < 0.005$

Abbreviations: CI, confidence interval; LARS, low anterior resection syndrome; ASA, American Society of Anesthesiologists; UICC, Union for International Cancer Control.