Incidence and Risk Factors for Anastomotic Bleeding After Robotic Ileocolonic Anastomosis

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Introduction

Major anastomotic bleeding following robotic colonic surgery is considered infrequent. However, it can potentially be life-threatening if not properly managed. The objective of this study was to assess the incidence of postoperative stapled anastomotic bleeding following right hemicolectomy and to identify the potential risk factors.

Methods and Procedures

We conducted a single-center, single surgeon (RAG) retrospective cohort study of 171 patients who underwent robotic right colonic resections with stapled anastomosis for both benign and malignant diseases. The procedures were performed between July 2012 and January 2021. Various characteristics of the bleeding cohort were compared with the non-bleeding cohort using Fischer's exact and Mann-Whitney's U test where applicable. P value = 0.05 was considered statistically significant.

Results

A total of 9 out of 171 patients (5.3%) experienced intraluminal bleeding in the postoperative period. The average length of hospital stay (LOS) before discharge was 3 days (median = 2 days), with median LOS = 2 days for both the bleeders and non-bleeders. Only 2 of 9 (22.2%) patients who bled required a blood transfusion. No patient required endoscopic intervention for bleeding. Patients with intraluminal bleeding had a significantly lower BMI i.e. 24.4 ± 2.72 vs BMI in non-bleeders i.e. 29.4 ± 7.12 (p = 0.022). No significant difference was found among the characteristics of bleeders versus non-bleeders with respect to hypertension, coronary artery disease, anticoagulant/antiplatelet use, steroid intake, alcohol use, and indication for surgery.

Table 1. Characteristics and univariate analysis of patients with and without intraluminal bleeding

Demographics	With Intraluminal Bleeding (n=9)	Without intraluminal Bleeding (n=162)	Fischer's exact or Mann-Whitney's U test (p-value)
Age	9 (70 ± 13)	162 (66 ± 14)	0.41
BMI	8 (24± 3)	152 (29 ± 7)	0.02
HTN	5	107	0.52
CAD	3	42	0.70
ETOH Use	7	94	0.35
Steroid Use	4	0	0.80
Anticoagulant Use	4	5	0.72
Benign Pathology	1	55	0.19
Malignant Pathology	8	107	0.12

Conclusion

Postoperative staple line bleeding following robotic right hemicolectomy is infrequent and self-limiting. Lower BMI seems to correlate with increased incidence of postoperative anastomotic bleeding. However, postoperative bleeding did not significantly increase the length of hospital stay or need for blood transfusions as compared to those patients without anastomotic bleeding.